Medical Library

SEP 5 1940

THE HEALTH MAGAZINE

HYGEIA

YOUR SON at SEVENTEEN

SEPTEMBER 1940 — 25¢

A WELL-BALANCED DAILY DIET

BODY-BUILDING FOODS	
Milk—1 pt.	340 calories
Butter—1 oz.	220 calories
Cheese—1 oz.	130 calories
Eggs—2	140 calories
Fruits	200 calories
Green Vegetables	100 calories
Yellow Vegetables	200 calories
TOTAL BODY-BUILDING FOODS	1,330 calories
ENERGY-GIVING FOODS	
Vegetables and misc.	200 calories
Meat—½ lb. lean	400 calories
Potatoes—2	200 calories
Bread—6 slices	390 calories
TOTAL ENERGY-GIVING FOODS	1,190 calories
GRAND TOTAL	2,520 CALORIES

REPRODUCED FROM THE SOUND FILM "GIVE US THIS DAY—THE STORY OF BREAD"

THE PLACE OF BREAD IN THE DIET

Numerous defects in the average American diet have been revealed by extensive investigations of our customary eating habits.

These nutritional defects are due, not to poverty, but to ignorance of how to make the best use of food for health.

The diet above is not only inexpensive but it provides every one of the food factors needed for optimum nourishment. The foods listed furnish an adequate and balanced supply of energy, proteins, minerals, vitamins, fluids and roughage.

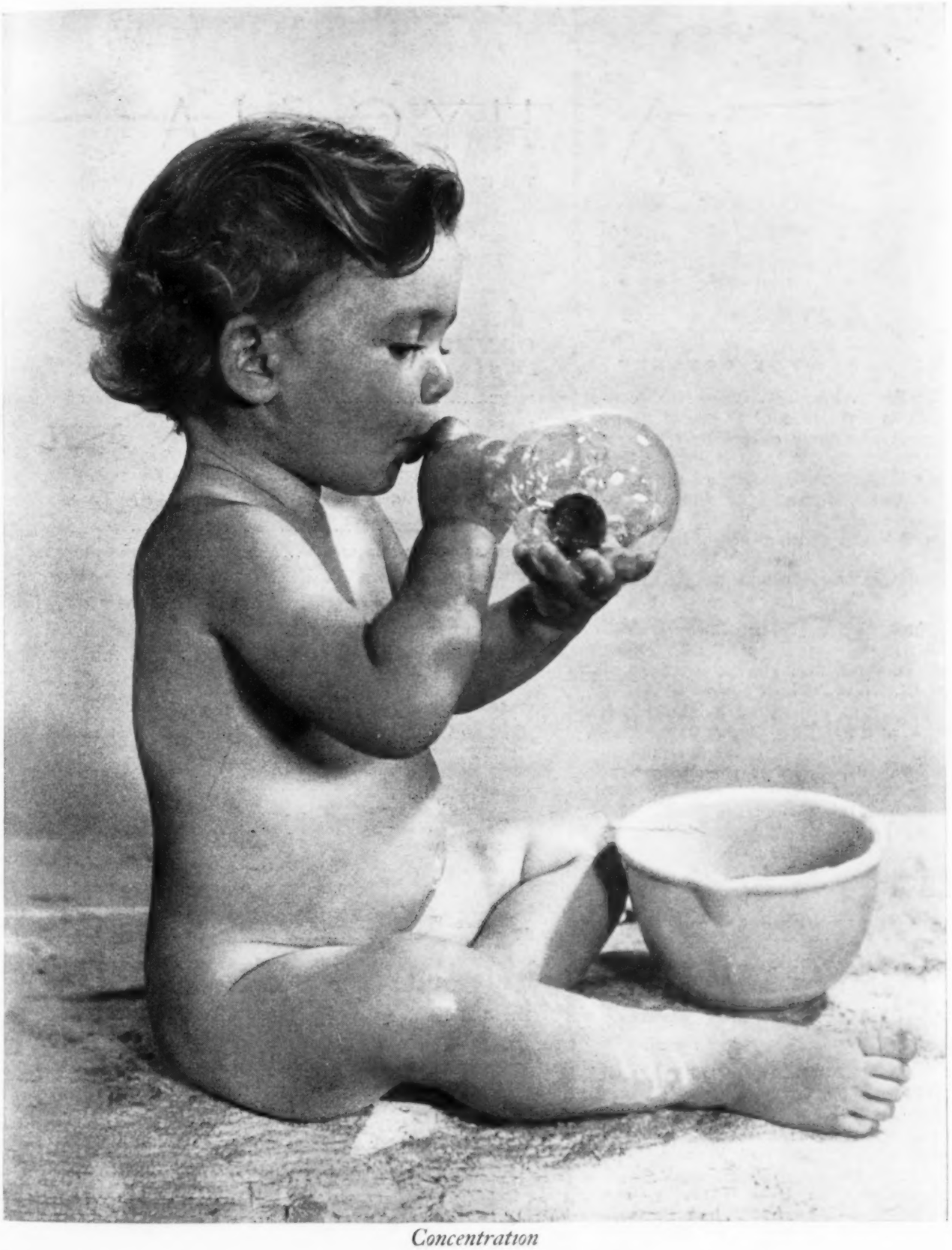
Bread is, naturally, a most significant component of this diet, because it is our best and cheapest source of food-energy, the most immediate need of the body. Bread, is, however, more than a necessary energy food. It contains about ten per cent of valuable protein for making muscle and other bodily tissues. And it provides calcium, phosphorus, a little iron, and small quantities of certain important vitamins B_1 (thiamin) and B_2 (riboflavin).

A post card will bring you a new booklet, "Our Daily Bread", which contains the latest reliable facts concerning the food value of bread.

American Institute of Baking

DEPARTMENT OF NUTRITION

NINE ROCKEFELLER PLAZA • NEW YORK • N. Y.



Concentration

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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VIRGO

FORECAST FOR OCTOBER

Backache, Frank A. Ober, M.D., contends in an article of the same name, is most commonly caused by improper mechanics involving the structures that maintain the erect posture of the body. The spine, composed of thirty-three precisely articulated vertebrae, is easily maladjusted by various bodily irregularities. Dr. Ober discusses those factors which may be responsible for your backache.

The history of undulant fever (brucellosis) is strange; its spread and the final determination of its cause present one of the most fascinating chapters in medical progress. The story begins on the island of Malta, over 50 years ago, when David Bruce began his tour of duty as an officer in the army medical service of her majesty, Queen Victoria. S. M. Rabson, M.D., recounts the history of the disease and gives statistics on its prevalence and transmission in the United States.

Elliot P. Joslin, M.D., concludes, in the October issue, the series of Nine Deadly Diseases with an article on the causes and cures of diabetes. There will be, he says, a million diabetics in the United States by 1950, but the opportunities for further progress in diabetic longevity are excellent.

Occupational therapy (healing through work) was born with the war of 1916 when John J. Pershing called for 1,000 men and women to do "occupational bedside work." In "Help Wanted," Marguerite Henry evaluates a comparatively new profession, how it works, and the training that is required for administering this kind of therapy. Miss Henry states that out of every conflict, wars not excepted, some good emerges. Occupational therapy, an outgrowth of a war time emergency has become a panacea in peace as in war.

HYGEIA

THE HEALTH MAGAZINE

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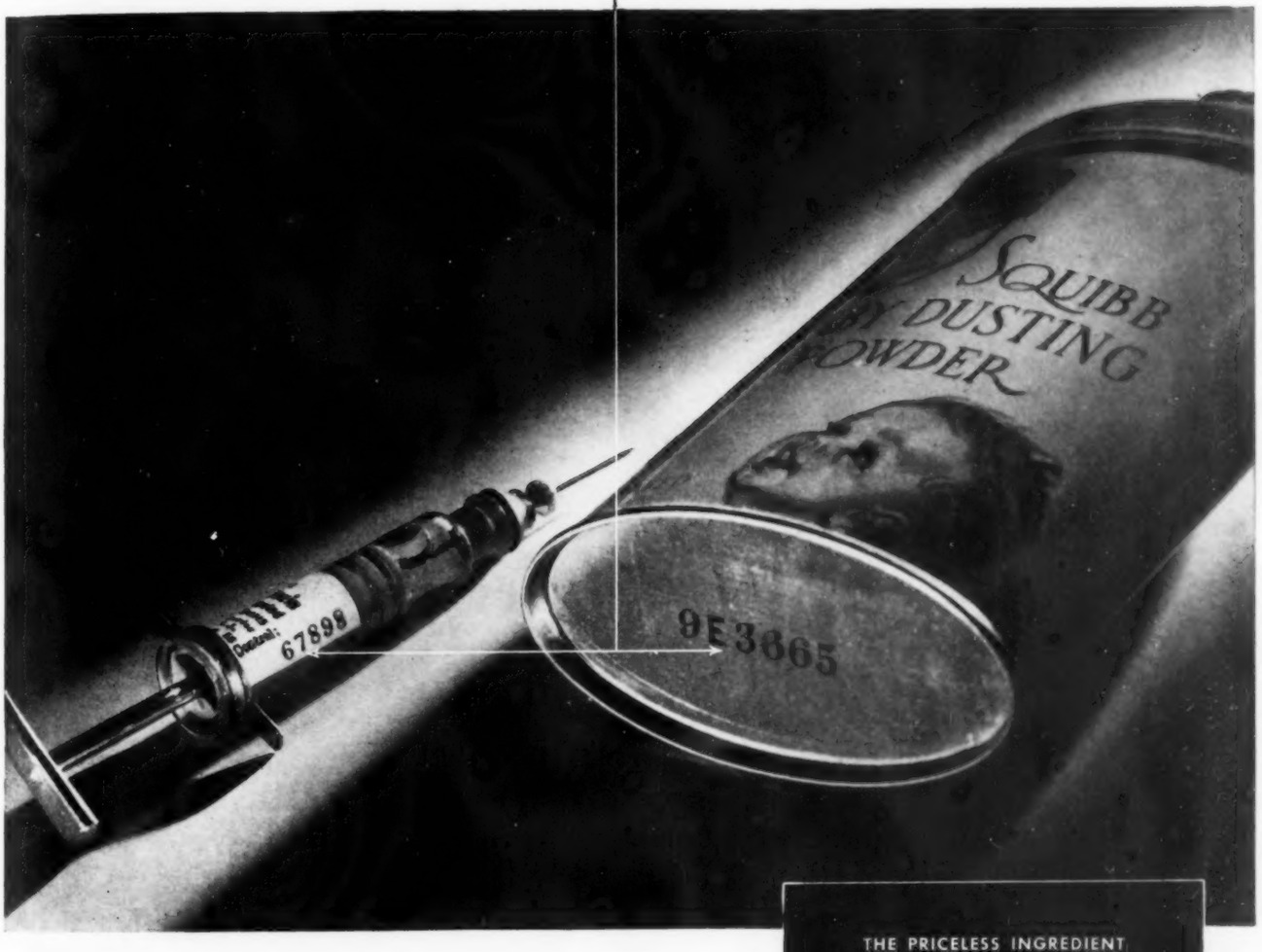
Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy submitted. All rights reserved.

Death-fighting antitoxin or dusting powder for the baby...

they have this in common



THE PRICELESS INGREDIENT

OF EVERY PRODUCT IS THE HONOR

AND INTEGRITY OF ITS MAKER

A doctor picks up a sealed vial of a Squibb antitoxin. To his patient, fighting a dread disease, it may mean the difference between life and death. On that vial is a little number.

A mother picks up a can of Squibb powder for the baby. No life-and-death issue here. Yet the can also bears a little number.

There are hundreds of Squibb products. And one of the things they all have in common is an individual control number. To the physician, to the mother, and to you that number is important—and reassuring. It means that the various steps in the product's making have been checked according to Squibb's exacting standards and the facts permanently recorded—raw materials, names, dates, tests. Even samples of finished products are placed on file.

Whether the control number appears on a professional preparation used only by the physician or on a bottle of Squibb Mineral Oil, Milk of Magnesia, Cod Liver Oil or a tin of Sodium Bicarbonate, it is a symbol of Squibb quality. A guarantee that the product measures up to Squibb's exacting standards in every respect. Look for this number when you buy drug products. It is tangible evidence of a name you can trust.

E·R·SQUIBB & SONS

Manufacturing Chemists to the Medical Profession Since 1858

"To See What I Could See". . .

in Hygeia ads

Take a memo, Mrs. Reader! Take a memo! Ad-items this month are chockful of "news and do's." And something tells me you'll want to make note of several ads that bear "looking into." Pencils sharpened? Wits sharpened? All right, then:

—:—

The Carnation Milk Company has a beautifully free gift for every baby's mother. It's a 40-page color-illustrated booklet entitled "Your Contented Baby"—and you just write and ask for it.

—:—

Personal Products, makers of Modess, invite adolescent girls, their mothers or teachers to write in for their two authoritative booklets on "Menstrual Hygiene" plus a set of 5 Menstrual Charts. All for free!

—:—

And speaking of teen age girls—Beauty Counselors have tactfully solved that "first lipstick" problem. They've come out with two delightful new sub-deb shades that will please both mother and daughter.

—:—

Sensitive skin? Then, that Nivea threesome belongs among your toiletries—Nivea Cream, Skin Oil and Superfatted Basis Soap. So gentle, they're recommended for both mother and baby's skin. Samples are free!

—:—

Money . . money . . money!—lots of it is being given away in the exciting new Kix contest sponsored by General Mills. Check into it. Your best 25 words on Kix may win you as much as $5,000. Interested?

—:—

What do *you* know about the nutritional value of meat? Frankly, you may be as completely amazed as I to discover meat supplies so much of the vitamin and mineral content of our diet. Suggest you have a look at the American Meat Institute ad.

—:—

Believe me, there's a barrel of laughs in every page of that swell little book, "Lissen Sadie." Don't you know someone sick or well who would be tickled pink to have a copy? At only 35c, you can buy several. Ideal gifts—party prizes, too.

—:—

Let that Soft-Lite Lens ad serve as a reminder to you mothers! Have your youngsters' eyes examined before the school year gets too far along. Your family eye doctor is the man to see.

—:—

And these cool September days—breakfast (lunch or dinner for that matter)—can be a real family treat set off with a cool, refreshing glass of Dole pineapple juice.

—:—

THE ADCOMBER.

See advertising index for page references.

Who's Who IN HYGEIA

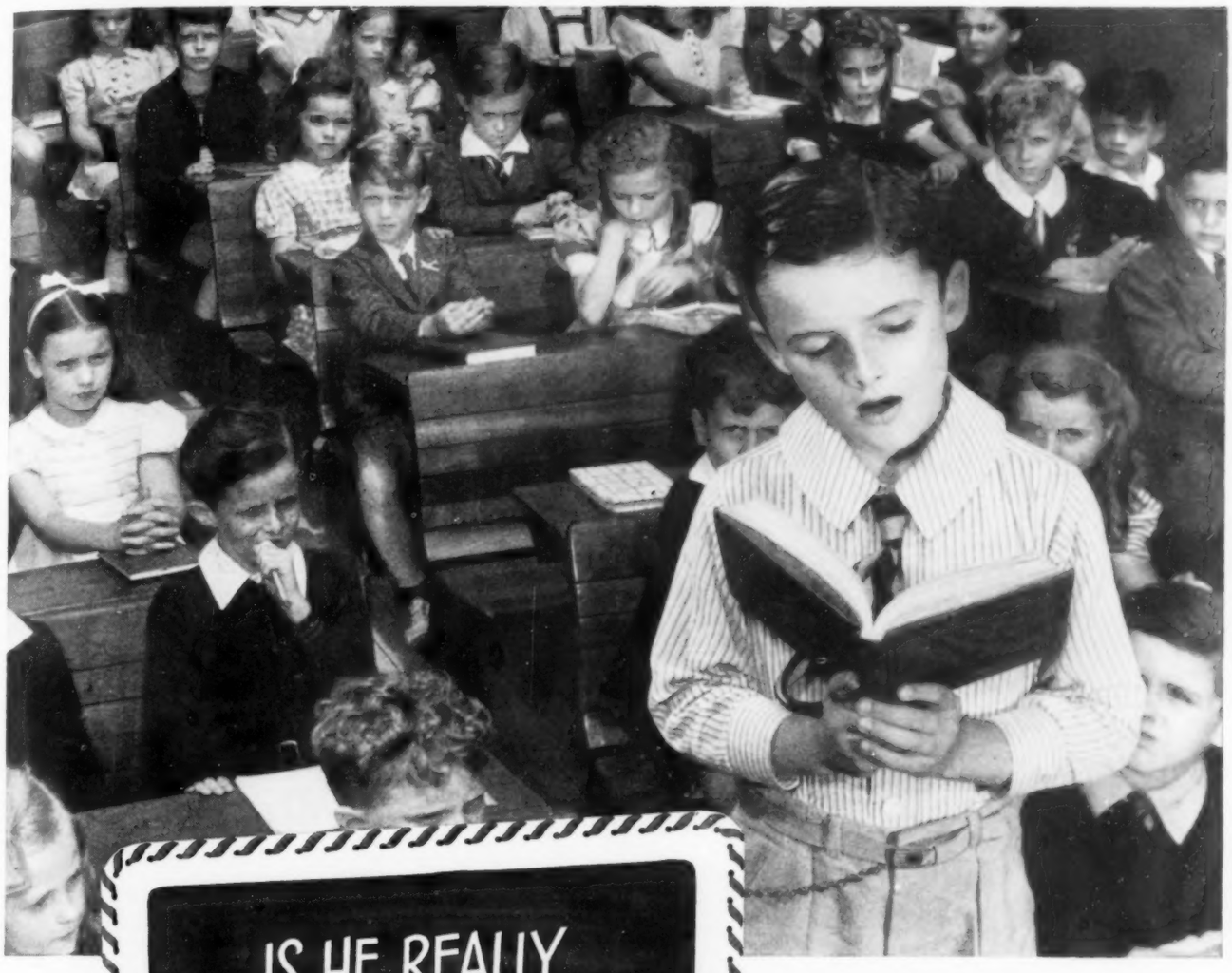
LEONARD ALLEN, author of "Let Yourself Go—Relax," page 782, is one of those rare individuals, a native New Yorker who still lives in New York. His magazine writing career was started by a delayed train and a loquacious Red Cap who gave him the background for a story he later sold to a New York newspaper. Free lancing, once a supplement to various newspaper and radio script writing jobs, has now become his full-time occupation.

In "Speaking of Cosmetics," page 770, LUCILE BOXLEY does just that—from a woman's point of view. Thwarted in a theatrical career by an ill-timed appearance of herself as Irene Bordoni before a Little Theatre Group in New York, she married; has an 11 year old son and a tremendous Irish setter called "Baby Sister." In her travels she "saw America first" and then the rest of the world. She loves reading, hiking, fishing and dancing, and her only regret is that she finds it impossible to do them all at the same time.

EDWARD A. STRECKER, M.D., who wrote "Alcoholism," page 760, is a Professor of Psychiatry at the University of Pennsylvania. He is a memeber of several societies, including the American Medical Association, the American Neurological Society, and the American Psychiatric Society. Other than writing, Doctor Strecker has two major hobbies: discouraging bridge playing and collecting odd facts about famous individuals—such as tracking down the inside story of George Washington's false teeth—but that's another story.

LEROY E. KURTH, D.D.S., discusses "False Ideas About False Teeth" on page 763. He was graduated from the Chicago College of Dental Surgery in 1928. Nine years later he was made a Fellow in the American College of Dentists. His hobby is writing articles for dental journals; his avocation, instructing in the Chicago Dental Society Club. Dr. Kurth has traveled widely, but concentrates on Utah for his vacations.

DORIS W. McCRAY, authoress of "To Sleep or Not to Sleep," page 773, prominent in the field of home economics, recalls as one of the most amusing moments of a varied life the time she was introduced to one of her many lecture audiences as one "who knows more than she looks as if she knew." She has spent several years as a home economics consultant in Chicago before returning to her birthplace, Cedar Rapids, Iowa, where she now successfully combines home economics with marriage. A Columbia graduate, she is not only an amateur expert on sleep, but also a leader in the advertising field.



IS HE REALLY READY FOR SCHOOL?

IT'S THE FIRST DAY of school. And Davey Lucas *looks* as ready for it as loving care and forethought can make him.

Ears and face are red from scrubbing . . . shoes shine . . . clothes have that neat "Sunday suit" look so abhorrent to Young America. Every item on his Mother's list has been ticked off.

And yet, the most important item on every school child's list has been forgotten . . . or neglected. He has not had a physical checkup by his family doctor.

We must remember that starting in school—or returning to it—brings the child into contact with greater hazards than he has faced in months. For most of the day, he is confined indoors in a classroom. The chances of contracting contagious diseases are inevitably increased.

Not only that, but a child may return from a summer vacation with unsuspected defects which will handicap him in school—or raise the total number of absence marks on his report cards. His tonsils or adenoids may need attention. His vision may have become imperfect, or his hearing impaired.

A checkup by the family physician is especially important at the beginning of the school year. It will permit him to start correcting troubles which may have already developed. It will let your doctor, if he considers it advisable, carry out an immunization program against such infectious diseases as scarlet fever, diphtheria, and whooping cough.

All things considered, therefore, it is well to bear in mind the old adage, "a stitch in time saves nine"—and to remember that a visit to the doctor *now*, may well save your child from debilitating illness later.

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PARKE, DAVIS & COMPANY

Detroit, Michigan

The World's Largest Makers of Pharmaceutical and Biological Products

SEE YOUR DOCTOR

Stephen Deutch

Back they come by the thousands . . .

Fit for School

BACK THEY COME by the thousands from summer camps, from farms, from beaches and from other vacations, or perhaps they have spent the summer at home. In just a few weeks the doors of the schools will open and from houses and apartments the little ones will venture forth to begin again the routine of daily classes and the formulas of education.

No doubt the vacation has developed the child's body. No doubt it has also brought about new adaptations in his personality. The change from vacation to life in school will mean new stresses. The leisurely life of vacation usually means almost complete freedom, with plenty of time to eat and to rest and with most of the time occupied in play. Now meals may be hurried; freedom is strictly controlled, and the carefree existence which the child enjoyed throughout the summer is transformed into hours of constant restriction and control.

Before the child begins again the routine of education, its physical condition, habits and health should be resurveyed. Our whole system of education is based on the state of the child's health. What chance has any child when it reaches school age if its vision and hearing are not normal? The ability to see and to hear, to read and to remember is fundamental to progress in school. Moreover, attention and concentration are demanded by every instructor as essential to learning. The child with frequent bad colds will find it difficult to give attention. The occurrence of toothache prevents the mind from complete devotion to what any one may be saying. An undernourished child gets tired easily, and a tired child is nervous and irritable. A survey of the health of the school child will include not only a study of its physical condition but also special attention to its nourishment and its mental capacity.

After the child has had a physical examination, the physician will recommend the necessary procedures for their correction and also for their improvement and rehabilitation. Proper correction of poor eyesight will enhance tremendously the power of the child to learn. Attention to infections within the ear and improvement of inefficient hearing may make all of the difference between failure and success. Moreover, it may be necessary to inculcate new habits of health in relationship to the nervous system. School rooms are full of fidgety children who show their nervousness by biting their nails, pulling at their ears, blinking or twitching.

Sometimes a period of preparation for entrance into school, which will include merely getting the child to bed thirty minutes to an hour earlier so that he can catch up on lost sleep, will make the child better able to withstand the first stresses of school life.

If every parent will give a little thought to the question as to whether or not the child is fit for school, it will be found that there are factors which demand a little extra attention in the case of the overprivileged as well as in the case of the underprivileged child.

Alcohol provides an easy escape mechanism from life's realities. **EDWARD E. STRECKER** points out what that occasional drink before lunch may lead to

ALCOHOLISM

THE HISTORY of alcohol is coextensive with the history of the human race. The deciphering of cuneiform tablets revealed that the ancient Egyptians enjoyed beer. Rome was drunk on military prestige and wine. Alexander jeered at his father, Philip of Macedon, in these words: "Look at the man who proposes to lead an army from Europe to Asia—so drunken that he is unable to get from one couch to another." The barbarians from the North added honey to certain cereals and brewed a delectable beverage called mead. As an escape mechanism from the chilling penetration of the fogs of the moors, the kilted Caledonians invented and utilized a drink called whiskey which still has not lost its popularity. Long before the white brothers bartered "fire water" for the lands of the North American Indian, the primitive braves made a deeply intoxicating beverage by mixing with ashes the gall from the gallbladders of buffalos killed in the hunt.

It is clear that alcohol has flowed down through the ages in a stronger and ever-widening stream. Neither legislative measures nor other efforts have succeeded in effectively damming the current, so that now in our own civilization and culture, alcoholism constitutes a greater social and personal hazard than ever before in our history.

Why has the use and abuse of alcohol steadily increased? The answer may be given briefly: Alcohol is an extremely effective agent for rosily blurring and softening the rigid and forbidding outlines of reality. It is a buffer between the individual and the disturbing impacts of unpleasant truths which he must face in his environment. Furthermore, it is readily available and provides a quick, easy escape mechanism. Society displays an amazing tolerance toward the alcoholic person. Usually it deposits him tenderly on his doorstep, or in hospitals and other havens of refuge. It is not until the alcoholic person has reached a very low and sordid level of almost constant drunkenness, that society stigmatizes him and places him beyond the social pale.

An index of the economic loss inflicted by excessive drinking may be taken from the alarming increase in the number of life insurance rejections for disabilities due to alcoholism in individuals under the age of thirty. One insurance company reports an increase of 183 per cent in a period of five years. Another index may be found in the statistics of motor car fatalities. In twenty-six states, 18 per cent of the fatalities were directly due to the lessened efficiency of mind-muscle control caused by alcohol.

How many alcoholic persons are there in the United States? No one knows. Certainly every normal social drinker knows one or more drinkers whose consumption of alcohol is neither normal nor social. The total number must be enormous. In order to arrive at an approximate idea of the enormity of the alcoholic social and personal problem, think of one chronic alcoholic individual you may happen to know in these terms:

Economically: In financial terms what has been the loss in earning power and its con-

In the phantasy of alcohol portly men and women become gay young bucks and glamorous debutantes.

structive potentialities to himself, to his family, to his neighbors and to the whole economics of society?

Socially: Note the rapid decline in social cooperativeness and constructiveness and how speedily the alcoholic individual becomes a millstone around the neck of society.

Culturally: Analyze the alcoholic person you know in the perspective of the quick deterioration of his mental powers which, perhaps, had large potential and even actual value.

Ethically and Spiritually: For the chronic drinker, no matter how high was the moral plane on which he formerly lived, there is inevitably a descent to a level of existence in which there are no remaining shreds of decency or perceptible remnants of former ideals.

Multiply this estimate of one chronic alcoholic person by many thousands, and observe at least an outline of the appalling figure of the damage inflicted upon the individual and upon society by the abuse of alcohol.

In order to have some understanding of the problems of alcoholism there should be an appreciation of its fundamental nature. While alcohol often takes a heavy physical toll, alcoholism is not an organic disease. There are numerous varieties of alcoholic insanity, yet drinking *per se* is not a mental disease. But there seems reason to think that abnormal drinking is a psychoneurosis and that the effect of alcohol is utilized unconsciously, just as neurotic symptoms are used unconsciously as instruments of escape from inner and environmental difficulties and demands which cannot be faced.

Alcoholism which is true to type and not merely a symptom of some other condition is much more likely to occur in those individuals who, in their personalities, are quiet, often shy, sensitive, reserved, given somewhat more to thought than to action and usually not able to meet social situations with ease and facility. They are the introverts. By accident or design, many of these personalities soon discover the magic of a few drinks in producing a satisfying conversational ease and social confidence.

The effect of alcohol that is eagerly sought, although the seeking is often unconscious, is the regressive effect. One need not frequent the habitats of chronic alcoholic persons in order to observe this regressive phenomenon—any normal cocktail party will do. First, there is the alcoholically conditioned atmosphere of decreased inhibitions and lessened responsibility. Then judging by their behavior antics, middle aged, portly gentlemen and ladies with waistlines honored largely in the breech, apparently have slipped off several decades of years. In the mild phantasy of alcohol they are again gallant young bucks and slim, beautiful debs of the by-gone years. In confirmed and excessive drinking, individuals often regress to very early and irresponsible levels, with complete loss of control of the ordinary organic functions.

Rationalization, the psychological device of believing what one wants to believe, is an integral factor in the personality of the chronic drinker. It is encountered constantly in the so-called "reasons" which the drinker gives for his liquid debauches. They are legion—"his wife is irritable," "his children are not getting on in school," "business is bad," "his employer is tough with him," "the weather is bad," "he has a cold," "his feet hurt"—and so on ad infinitum.

As alcoholism advances only the merest shreds of rationalized "reasons" remain; the drinking becomes uncontrolled. The frantic objective of the drunkard is the attainment of the anesthesia of complete drunkenness in order to escape the horribly painful mental conflicts which rise to the surface of consciousness at the first faint dawning of sobriety.

Now comes the stage of complete nonreasoning, automatic drinking. The drinker does not have the faintest knowledge of why he continues to drink. Debauch follows debauch. His drinking is like the posthypnotic behavior of the subject who is obeying suggestions made to his unconscious mind during the hypnotic trance. He has no knowledge of why he acts as he does, but the demand to behave as he does is imperative. In somewhat similar fashion, the suggestion to drink again and again comes with the first intrusion of sobriety with all its painful accompaniments.

What is a social drinker? What is an abnormal drinker? The distinction is rather important since abnormal drinkers are recruited from the ranks of social drinkers and, too, no one can be absolutely certain that he may not become an abnormal drinker. The social drinker drinks to be social; reality is slightly softened and partially obscured. Troubles are temporarily relegated to the background and inhibitions are relaxed. There is a friendly, pleasant atmosphere. Alcohol in moderate amounts increases the pleasures of reality, and social drinking may be like the bouquet of rare and precious wine. In abnormal drinking the alcohol is imbibed in large amounts to escape reality and in *(Continued on page 828)*

False Ideas about False Teeth

The thought of unflattering facial changes wrought by ill-fitting dentures has caused many persons to delay in having decayed teeth removed. The advances made by modern dental science are revealed here by LeROY E. KURTH in an informative article

SO STRONG is the fear of altering facial appearance by wearing false teeth that patients often hesitate to have badly decayed and infected teeth removed. Such teeth are unsightly, uncomfortable and a menace to health. The patient's fear is usually conditioned by the unflattering facial changes wrought in friends or relatives by ill-fitting dentures that clicked an accompaniment when they talked or dropped out at inopportune times.

Many persons are unaware of the tremendous strides in full denture construction that have been made within recent years. It is obvious that construction of full dentures must necessarily be based on a thorough knowledge of anatomy, histology, physiology and biomechanics of teeth, jaws and mouth. To be able to visualize the complexity of denture construction would be to acknowledge the absurdity of expecting satisfactory dentures from "mail order" plates, for which the patient takes his own impression and bite. Accurate full denture construction consists of more than haphazard impressions, setting teeth indiscriminately and wistfully hoping they will look and function well.

The most carefully constructed set of dentures, however, will be unsatisfactory if the patient fails to cooperate or does not thoroughly understand the problem facing him. The dentist can make "plates," but the patient must learn how to use them. The time interval of the adjustment period depends entirely upon the patient's adaptability to new conditions. It is apparent that dentures vary equally as much as individuals. Thus, the experiences others may have encountered may be entirely at variance with your own. If the problem of the correct use of dentures is approached with firm determination to overcome all difficulties, its mastery is assured.

The first step in the plate making process is to obtain pre-extraction records. By noting and recording the distance between various fixed points on the face, the relationships between the upper and the lower jaws can be simulated with artificial dentures. An impression is then taken of the remaining natural teeth so that the artificial teeth can be set accordingly.

The use of immediate dentures has many advantages over the former practice of waiting three months to a year before insertion. With the new method, patients do not adjust themselves to being without teeth, and then make another adjustment when the plates are inserted. The facial musculature does not lose its tone, the lips and cheeks will not sag, become flabby, or require subsequent readjustment when dentures are inserted. If an immediate replacement is not desired, less than three weeks should be allowed for the gums to heal before taking impressions.

As long as an accurate impression is obtained any material such as waxes, compounds or plaster may be used. Models or dies are then made in artificial stone from these impressions. But only your dentist is qualified to do this.

The next important step is to record the "bite" or rest position between the upper and the lower jaws, so that the jaw models can be mounted on an instrument called an articulator. Then the dentist can reconstruct the lower third of the face by determining the proper spacing between the upper and lower jaw. The entire physiognomy is changed if this relationship is not in harmony with the other proportions of the face. Wrinkles and even the appearance of having no teeth can be caused by improper proportions. Years can sometimes be erased from facial expression if this step is correctly performed.

The complete loss of teeth allows the jaws to come closer together and produces the formation of premature wrinkles.

Proper fitting dentures return normal facial expressions, reduce deep lines and restore the function of mastication.

Unfortunately, middle aged persons must often lose their natural teeth; facial changes and premature aging result.

Fortunately, modern dentistry can now provide the means by which teeth may be replaced by natural looking substitutes.

Porcelain teeth are then selected for shape, size and shade to be set in wax for the patient's approval. If preextraction records were made, this step can be accomplished accurately because nature harmonizes these factors and they can be duplicated by your dentist. In some cases, the patient with a protruding or retruding jaw line can be made normal. By proper surgery and teeth placement the facial appearance can be enormously improved. If the patient has been without teeth for a long time, the artificial teeth may appear unduly large, because without teeth to support the cheeks and lips, the facial muscles become shortened. Then, more tooth area will be exposed until the lips assume a normal position. Since the teeth are at first set in wax, they can be moved and turned to produce the best appearance. Surprisingly few individuals have even, regular teeth and consequently a slight irregularity will remove artificial appearance so prevalent in the past. It

is now possible to obtain artificial teeth of shape and hue that escape detection and the patient may pass final judgment on the teeth to be selected. The initial setting is then changed to a permanent one.

Denture materials are so nearly perfect that they, like the teeth, can escape detection. If an immediate restoration is made, the remaining teeth are extracted, and the dentures inserted over the ridges. Occasionally, an alveolectomy (removal of projecting portions of the alveolus or tooth socket) may have to be performed to obtain suitable ridge for plate retention. In these cases the denture serves as a splint and postoperative hemorrhage is minimized. These patients usually have no trouble adjusting to new conditions, for personal pride generally prevents them from removing the dentures even if they are, at first, uncomfortable.

Whether the dentures are made immediately or not, the wearer still has to make a certain amount of adjustment. It should be recalled that the gums in nature are a mere protective covering for the bone. When dentures are worn, however, the gums must withstand the stress of mastication. This may result in soreness anywhere under the denture base but can be relieved by returning to the dentist to have the plate trimmed down where necessary. But the important thing is that these minor difficulties can be overcome and it is quite essential that the dentures be kept in the mouth to become accustomed to them.

Dentures, it must be remembered, are an artificial substitute for natural teeth and the same degree of proficiency in use cannot be immediately expected. After experience, however, many persons use them as well as they did their own teeth. Take very small bites of food when learning to use new dentures and chew on both sides of the mouth. Food tends to be forced into the palatal or roof portion of the upper plate and along the sides of the lower one, but when the cheek musculature and tongue become adapted to the dentures, the food will be kept on the surfaces of the teeth where it can be efficiently masticated. Time is required for this muscle adaptation to take place, and the patient should not chew forcefully for at least a week.

Denture retention depends on the adhesive force between the plate and the mouth structures. Any force that tends to break this suction should be avoided. Some dentures, because of mouth construction are difficult to keep in place when the patient is yawning, whistling or blowing. Facial muscles should then be used to keep the dentures in place. This is difficult to do with the "lowers," but persistent attention to muscular control will check this tendency.

Commercial powders are manufactured under various trade names to increase denture retention. The Council on Dental Therapeutics of the American Dental Association has said of these powders:

1. They have no therapeutic value and are not beneficial to mouth tissues.

2. Frequent use encourages the patient to wear dentures which should be adjusted or reconstructed.

3. The use of powder creates a false retention and thus inhibits development of desirable habits of muscular denture support.

4. These powders often become fouled when combined with oral secretions and may act as an irritant where local abrasion is present from an improperly fitting denture.

The lower plate unquestionably presents a greater problem in denture control. This is not surprising because only the lower jaw moves when talking or chewing. The tongue muscles, attached to the inside of the lower ridge, also tend to displace the lower plate. Persistent effort, however, will neutralize this difficulty and the individual will soon be able to chew satisfactorily and enjoy a full, varied meal.

Since the palate is covered by the upper denture some individuals complain that their sense of taste is lost. This objection is imaginary. Taste sensation occurs only in the taste buds on the tongue.

Ridges often shrink away from the dentures. This is not the dentist's fault nor that of the dentures he constructed, but rather a physiological tendency that must be considered. Often the ridge bone becomes absorbed, and plates thus lose contact with the gum tissue resulting in loss of suction and retention. Dentures must then be relined or remade to compensate for this change in the ridge formation.

Commercial preparations for this purpose have been manufactured for public sale, but many have harmful ingredients, are scientifically unsound and fabulously merchandised. Any one would be equally successful if he attempted to remove his appendix after taking a correspondence course in surgery. These materials cause the jaw ridges to absorb even more rapidly and require consistent use, thus creating an ultimately discomfortable cycle.

The mouth should be kept scrupulously clean; tartar and saliva collect on dentures as well as on natural *(Continued on page 802)*

YOUR SON at

By following the seven rules given here by PAUL POPENOE, parents can help their sons conquer the social and sexual problems that confront every normal boy

A MOTHER is distressed; and she has reason to be. Junior has disgraced himself! And his family will have to take him out of school and put him on a ranch.

"I don't know how he could do that sort of thing," his mother sobs. We've given him every advantage—and this girl is cheap. She's absolutely common. We had definitely forbidden him to have anything to do with her.

"Isn't there anyway to keep adolescent boys from doing things like this? What can I do to protect Bud? He's only 13—four years younger than Junior—but he's terribly headstrong. If anything should happen to him it would almost kill his father. Why don't the schools look out for their students better? A girl like that should not be allowed in a public school. Are the parents to blame? What could we have done that would have prevented this?"

There are a lot of things that could have been done; a lot of things they can still do for Bud, which they failed to do for Junior—even though they are starting 10 years too late. Parents can prevent these problems in most instances if they will heed these seven rules:

A Pleasant Home

If he has a feeling of emotional security he will be less likely to try to reassure himself by experiments elsewhere. If he has a sense of companionship with his parents, he will face the world with assurance.

It is perhaps even more important that his parents be companionable with each other. The boy whose home is marked by constant friction and selfishness, does not have the necessary feeling of security to face adolescence. The boy whose parents are separated, whose parents failed or refused to solve their own problems, is in no position to face the world with confidence. Every counsellor of young people at the high school and college age is aware of the number of emotional difficulties which originate in the home—which go back to the failure of the parents to work out their own difficulties.

Inferiority complexes are easily built in such an environment, and the boy with an inferiority complex may try to offset this by adolescent adventures which will yield, for the moment, a feeling of triumph, of power; but which will be followed by even greater difficulties than he was facing before.

Accepting Responsibility

In no other way can he grow up emotionally. The boy whose emotional development is arrested will find it difficult to attain adult status. Many a boy is so overshadowed by his parents that he is unable to grow up; and he is therefore susceptible to particular difficulties in adolescence. When other boys are learning to stand on their own feet and he tries to do the same, he finds that his feet are crippled. He can hobble forward lamely on

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the road to emancipation, but is soon left behind. Small wonder, then, if he tries to bolster his courage by acting—as he supposes—like a grown up, in what he considers romantic adventures. Never having learned to accept responsibility for his own actions, he will feel irresponsible in such episodes.

It is the high school boy, not the college boy, who gets into trouble most often. If he is able to reach his college years without mistakes, he will probably continue to become more responsible as he grows older. Studies indicate that if he is going to begin irresponsible sexual experiments, it is likely to be during the irresponsible high school years.

I doubt whether any boy can be made to assume responsibility by keeping his responsibility constantly subjugated. If he is to be responsible for his sexual conduct, he must have been made responsible for all other conduct in the past: for picking up his toys, handling his allowance, buying his clothes; for contributing to the welfare of his family in a democratic copartnership; for contributing to the welfare of other families as a junior citizen.

Parenthetically, parents must remember that if a boy is ever going to feel self-confidence, if he is ever going to be able to assume responsibility for his own actions, he must occasionally prove himself to be right and his parents wrong. Parents who never admit a mistake are not helping their boys to grow up. If the boy is to face the world and hold his own in it, he must learn to depend on his own judgment. If the most important part of his world which is represented by his own parents always proves to him that his judgment is worthless unless they arbitrarily see fit to approve it, he will go through the world an emotional weakling, making the mistakes that any emotional weakling is likely to make.

The boy who from childhood has learned to accept responsibility for his own actions, to feel that he is a member of a group and prospers only as a group prospers, has a good start toward the attainment of maturity without any adolescent tragedies.

Association with Men

His own father naturally comes first. Many fathers living in urban areas would be astonished to learn how few hours they spent with their sons, out of every thousand hours in the year.

Merely being together at the dinner table is good, but far from enough. Being together at a ball game or on a fishing trip is also excellent, but far from sufficient. The boy who will most easily grow up to take a man's part in the world is the boy who has been outside of his own home, with his father and other men that are doing the work of the world. A boy with this background will grow up to feel that he understands the world of men, and is able to take a responsible place in it. And he will be anxious to do so. He will have had a good deal of association, not merly with his father and other men outside the schools, but also with mature, happily married men teachers inside the schools. The boy who is brought up wholly under feminine dominance—first his mother, then his Sunday school teacher, his kindergarten teacher, his music teacher, his dancing teacher, and all the other women who control him until he enters college—does not have a satisfactory background for playing a man's part in a man's world.

Popularity with Girls

If he can get along well with girls and understands them in relation to himself, he will be much happier than if he is consistently assuming a defensive attitude. If he has begun to look down on girls, to think they are inferior creatures naturally condemned to a low status, or even condemned to the very high status of waiting on him and catering to his whims, he may receive a good deal of education from the way his father treats his own mother. But if he is an only son with several sisters, he may very easily get off to a bad start.

If he is to get along naturally with girls, he must have grown up emotionally. If he is still in the infantile stage of self-love, thinking the world exists merely to gratify his desires, he will be a nuisance to every one. If he is still in the childish stage of being tied to his mother's apron strings, he will have little to offer the girls he meets in high school. There will be only two kinds of love in his personality: self-love and mother-love. That leaves little place for the girls! If he is still at the gang stage, perhaps getting along pretty well with other boys but afraid, half hostile toward girls, he will have difficulties. If he has reached the normal late-adolescent stage of taking a generalized interest in all girls just because they are girls, in wanting to know what girls are like, and what he is like in reference to girls, he will derive more satisfaction out of life, and begin to have a little to give. If he has failed to reach this stage, his parents are at fault.

He must, then, have matured emotionally at a normal rate, and know how to get along with the world in general. He must also know how to get along with girls in particular, and this involves some study of the ways in which their behavior differs from that of boys. If he is an only son, brought up without any girls in the family, he may have a good deal to learn. And if he thinks he can be popular by treating high school girls just as he would treat high school boys, he probably has a good deal to unlearn.

Rational Sex Education

The much advertised but ignored "facts of life" are essential, but they are not sex education. Mere facts are not an adequate motivation of conduct, and parents have no right to expect Bud or Junior to base his conduct on mere ignorance. The boy must know what to do with the facts, you have given him.

A recent study by Kenneth M. Peterson describes vividly how college boys feel about the way their parents "let them down" in learning these "facts of life." Most of them, getting their facts the dirty way, say that they unconsciously grew up to look on sex either as something evil and dangerous, or as something "naughty but nice" which the older generation was going to monopolize if it could. Among the hundreds of fraternity men, questioned in the study, there are few indeed who do not now consider both these attitudes irrational. They are not at all grateful to their parents for having given them only these two choices. Some doubt and distrust their parents as a result; many others are resentful, occasionally even contemptuous.

A rational sex ethics must include, from infancy, an appreciation of sex as something

normal, wholesome, and constructive in life, and inseparable from the rest of the individual's personality. The boy who grows up looking on sex as an isolated and exciting episode—somewhat like taking a ride on a roller coaster—will have a hard time fitting sex into

his life, whether in adolescence or in marriage. The boy who understands that sex is a component part of a complete life—a permanent partnership and family foundation—has a good basis for avoiding fragmentary and self-centered episodes that are essentially infantile in their emotional content.

It is obvious that every boy must be prepared for the phenomena of puberty just as his sister is prepared for the appearance of her first menstruation. And it is highly important that he be prevented from getting the common and erroneous idea that during the adolescent period he is the victim of some overwhelming biological "sex urge" which he can hardly be expected to resist. Unless he deliberately cultivates such an urge by subjecting himself to overstimulation, he will see little evidence of it. If there were such an urge with the intensity often ascribed to it, this urge would presumably increase from year to year. The high school boy would be little bothered by it; the college boy much more so. But it is the high school boy who is more likely to begin sexual experimentation. This is not the result of any imperious and dominating "sex drive," but may be traced to other influences such as the desire for adventure; the longing to be thought a man; the wish to compensate for an inferiority complex and quite often through seduction by older women.

Normal Social Life

Obviously, a normal social life will help your child to properly evaluate his environment. A survey at one of the largest junior colleges in the United States indicated that about 10 per cent of the students had more social life than was good for them; 40 per cent had a fair to average amount; 50 per cent had virtually none whatever. In such circumstances, is it surprising that boys and girls get into difficulties? *(Continued on page 818)*

—Speaking of

Cosmetics

Beauty preparations are essential to carefully groomed, modern women. Cosmetics, skilfully applied, do much to enhance natural loveliness by adding color and life; by enriching the foundation of cleanliness and good health. ***LUCILE BOXLEY*** ***gives a woman's point of view***

IN SPEAKING of cosmetics, let us consider the attitudes and demands of the women who, after all, make the "beauty" industry possible. I am not attempting a consensus, but merely an effort to present a feminine point of view.

I can remember when cosmetics were seldom mentioned; and when they were, it was in a hushed voice. They were purchased, almost with a sense of guilt, and quickly tucked in the bureau drawer, away from the stern eye of the Head of the House. They were used only on special occasions and then with a sense of utmost daring. Even children, who explore closets, boxes and drawers as an enterprise of their own, were a little awed by the hidden box of rice powder and the little jar of carmine. Those were the days when women put buckets under the eaves of their houses to catch rain water for a shampoo; when they slept in curlers.

Today women speak of cosmetics as freely as they do of the grocery list. Their beauty aids are no longer cached in a drawer; and the Head of the House is very likely to find even his own pocket used as a receptacle for compacts and lipsticks. Often in a ladies' dressing-room I have heard these remarks, "Why didn't you *tell* me my nose was shiny?" and "I feel positively *undressed* without lipstick!" Foolish remarks, perhaps, but utterly feminine and springing from a universal longing to be attractive.

A friend of mine, a woman of 55, who has worked in a department store for fifteen years, tells me that her cosmetics are absolute necessities. Her appearance, as well as her manner, has an effect upon the customer. A large part of her success in that position depends on the well groomed impression she gives to the public. Such grooming calls for a little rouge to offset the pallor of weariness, powder to soften the web of lines around her eyes and mouth, lipstick to give fullness to her thinning lips. She buys the best cosmetics available within the confines of her budget, believing that age is what you make it. She has never been influenced by ridiculous claims made by cosmetic advertisements. She needs cosmetics and uses them, but she is never carried away by a "youth overnight" come-on. She believes in the conservative use of cosmetics, and these beauty aids have served her need.

Recently, however, I spoke to a woman who gives facials in a fashionable beauty salon. Her own complexion makes women sit up and take notice. Her contacts are with women of leisure who are seeking beauty and still more beauty. It is amazing, she says, how far women will go in quest of beauty. They are naïve and gullible. They will try anything, and despite the fact that they have been easy prey for experiments and unfounded claims, they cling to an unshakable confidence in cosmetics. She finds daily evidence of remarkable results brought about by the correct application of suitable cosmetics.

The basic requisite of a beautiful complexion is absolute cleanliness. The use of cosmetics encourages cleanliness, and women are often astonished to find that a second cleansing with cream removes almost as much grime as the first. And once they discover this fact, they are more than ever impressed with the necessity of careful grooming. Even if they have few aspirations to beauty, they still make an added and desirable effort to appear fresh and clean.

A young woman of 30, secretary to an executive, tells me that while her cosmetic needs are few, those few are not luxuries but necessities. She says her skin rebels with a banner of big red splotches to the hard water of her particular locale, and that without a cleansing cream and a lubricating cream she

feels she would be shunned in public. Without lipstick she bites her lips unmercifully. Her constant cosmetic needs consist of cleansing cream, lubricating cream (foundation cream when the budget allows), powder, rouge and lipstick—five items which she considers indispensable to good grooming. She has never been the victim of beauty baiting, and aspires to be nothing more than she is, a charming, well groomed business woman with a sensible makeup.

Every woman realizes that good health is the backbone of personality and that it is nature's most glorious contribution to beauty. But good health alone cannot overcome the unattractive shininess of an unpowdered nose or the winter dryness of a neglected complexion. Good health supplies the firm strong canvas, but it is up to the artist to create a pleasing picture. For generations, women have used color to bring out the charm of their homes; and for the same reason they use color on their faces, to enhance natural features. A woman picks up a flower, broken from the stem, to pin it in her hair. The gesture is natural and unpremeditated; it is only an almost instinctive desire to be a part of beauty. The demand for cosmetics is no strange phenomenon; it is merely specific evidence of woman's desire to be beautiful. And the demand will last as long as there are men and women on the earth.

The cosmetic industry probably would have perished long ago, were it not that the majority of women are pleased with their selection of cosmetics. Whatever position an American woman may take on the question of using beauty aids, she must admit that cleansing cream, massage cream, lotions and foundation creams improve the appearance of her complexion; that rouge, lipstick and powder make her look and feel younger and more desirable. Whoever says that women can mix cosmetics in their own kitchens with a few cents worth of ingredients, must realize that a few cents will always look like a few cents. And if they persist in using their own concoctions, they may really have something to go to the doctor about.

I am willing to bet my Christmas savings that if some one were to take a census of the contents of women's pocketbooks, he would find more lipsticks and compacts than any other single item. A woman may forget her handkerchief, her carfare or her driver's license, but she won't forget her makeup. And how she loves beautiful packages! Cosmetics in any form are attractive to women when they are beautifully packaged. Alluring colors and de luxe cases are irresistible.

Glamour is a word constantly used in discussing cosmetics. In the true sense glamour means deception—a spell or a charm. Perhaps glamour is really applicable to cosmetics. They aid deception, but it is the kind of deception every woman wants. All women know only too well how they would look on a desert island; and they are not at all interested in having any one else know. Women want glamour; there are enough inescapable realities in life.

The persons who are allergic to cosmetics are few and far between. The majority of women are not allergic to beauty aid ingredients, and in most cases they are not even interested in the ingredients. Women do not go to a doctor merely to be told that they are allergic to cosmetics, but rather to be informed of the kind of preparations they may safely use. They want to be relieved of their particular form of allergy without giving up cosmetics entirely. If one is allergic to strawberries, it is not the farmer's fault or the grocer's fault; it is merely a case of individual sensitivity.

It is safe to say that any attempt to keep cosmetics from the modern woman would be about as futile as trying to raise petunias in Little America. Any commodity that serves as important a part in everyday life as cosmetics, must be considered a definite demand. Sensible regulations should be encouraged, but they must be sensible! Women appreciate medical and governmental efforts to protect them by regulating cosmetic claims and furthering the production of better products; but they are resentful of statements which conflict with the facts about beauty aids which they know from experience to be true. The more difficult it becomes for reputable cosmetic companies to supply the public demand, the easier it will be for shady enterprises to delude the unsuspecting customer. It is true enough that "you can't remove wrinkles and nourish skin from the outside," but women know from experience that certain preparations do soften the appearance of wrinkles and make the skin seem clearer and more wholesome.

Women have used cosmetics throughout history, ever since they first made rouge from the leaves of henna shrubs in Egypt, and obtained oils from olive trees in Asia Minor. And now, even with the myriad of beauty aids on the market, there is no indication that their enthusiasm for cosmetics has slackened.

To Sleep or *Not* to Sleep

DORIS W. McCRAY, *in the second of two articles on sleep, tells what the psychologist has discovered about you while you are sleeping*

THE SUBJECT of dreams has always been fascinating. But it lends itself much less to scientific study than other factors of sleep, largely because some people remember dreams while others quickly forget them. Practically all we know about dreams is derived from reports of the dreamers, whereas other phases of sleep can be studied objectively. The person who reports that he has been tossing and turning throughout the night, may be faced with motility records that show conclusively that he has "tossed" for exactly four minutes and twelve seconds.

Dreaming is less likely to occur when a person goes to bed moderately tired, than when he is excessively worried, excited, wide awake, or unusually tired, sleepy or depressed.

Dreaming decreases with age, but begins rather early. The greatest amount of dreaming is done by persons who are between 20 and 25 years old. Children dream occasionally as early as two or three. Dreams increase with the variety and activity of the individual's intellectual life. Students report the heightened frequency of dreams during examinations and intensive school work.

Both external and internal stimuli may cause dreams, and almost every one is familiar with the dream of seeing food and attempting to eat when actually hungry. Dreaming occurs most often in light sleep, while dreams during deep sleep are not remembered. In both kinds of sleep dreams seldom last more than 10 minutes.

It is more difficult to keep distasteful material from entering dreams than to exclude it from the mind during waking hours. In small children, dream censorship is probably undeveloped, while in the mentally ill the inhibitory influence may be the first to break down.

During wakefulness, a person exercises judgment, makes comparisons and decisions which correspond to his code of ethics, while during dreams, impressions are received objectively and as an observer. Dreams either may be similar to the operation of a young child's mind with almost a total lack of moral or intellectual restraint or they may involve full analysis and understanding, similar to the waking state. The depth of sleep can be measured accurately in terms of irritability to touch or pain stimuli. The quiet sleeper usually awakens most easily.

With increasing discomfort, resulting from sleeping in one position for a long time, sleep becomes lighter until the individual is sufficiently stimulated to change his position. The deep sleep of alcoholic intoxication is followed by a feeling of stiffness and discomfort because the person's position is not changed during sleep.

Periods of deeper and lighter sleep may occur within a single hour. Some people sleep better during the first part of the night because

hunger contractions of the stomach in the later part induce "wakefulness of necessity." There is no fixed "sleep curve" for an individual on any particular night, because many factors influence depth of sleep.

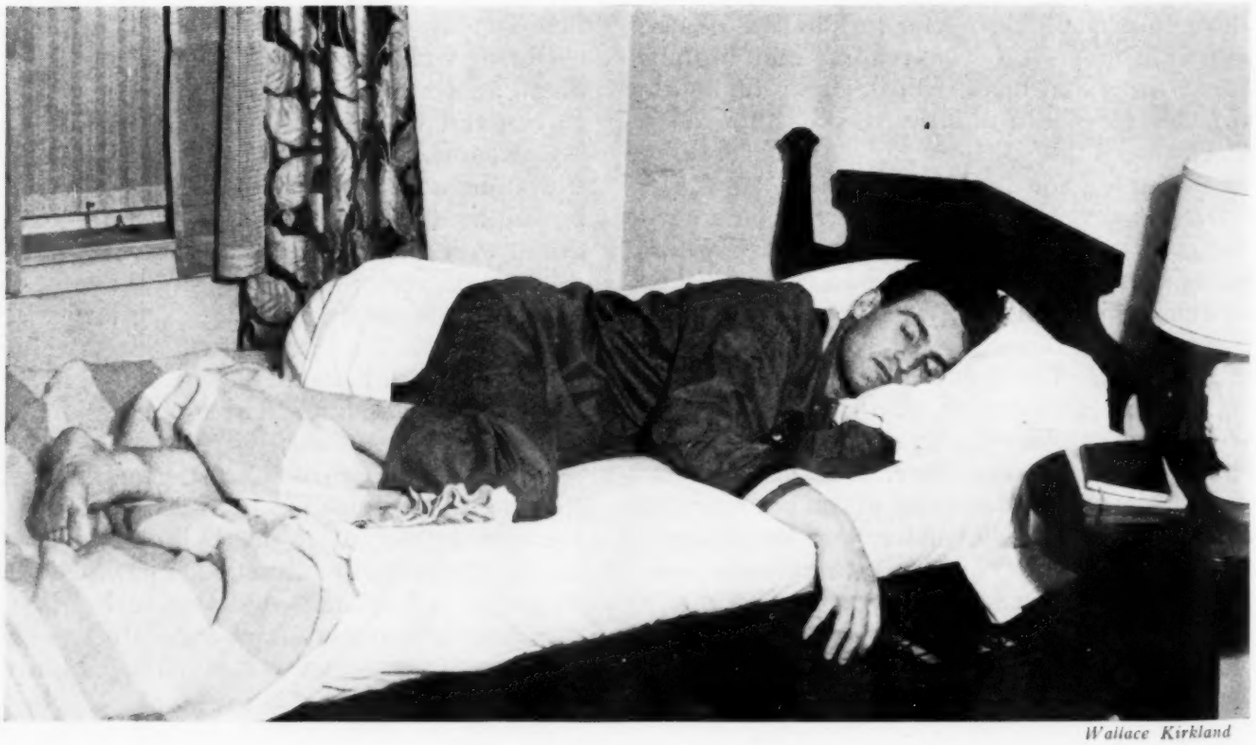
Some people rest more during the earlier part of the night, others during the middle or the latter part. Automatic recording equipment shows the amount of motility, or movement of the sleeper. Children often sleep for as long as an hour without moving. The lively, inquisitive child changes his position more often while asleep than the lazy, indifferent child.

Conditions which caused a greater amount of movement during sleep in a series of motility tests were an unusual activity before retiring; putting a child accustomed to sleep alone, with other children; certain types of moving pictures; beverages containing caffeine; emotional states such as fear, worry, disappointment or pleasant anticipation.

About 5 to 10 seconds is required to change from one position to another, hence time is not wasted, and a person feels more rested after such movement. Normal persons do not waste more than about 30 seconds per hour in movement, but they change positions many times during the night.

Newborn babies sleep as much as 22 hours out of 24, and infants that require less sleep than others will need less sleep as they grow older. Changes in schedule are gradually made from month to month so that a school child has dispensed with the nap and follows the adult schedule. The afternoon nap reinforces night sleep in the early years of life, but later interferes. A normal child will try to maintain a sleep balance over a period of time, making up for lost sleep the next night.

There appears to be no correlation between duration of sleep and school success, although in a group of one thousand gifted children, it was found that they slept longer than average children. It is possible that superior mental ability in younger children permits them to remain awake longer, but the increased mental activity of older gifted children produces greater fatigue and, therefore, greater need for recuperation at the end of a waking period. Standard sleeping schedules laid out for children call for longer hours of sleep than are practical. Compelling a child to stay in bed



Wallace Kirkland

Most persons sleep in a position which leaves one hand free, but every one has a number of favorite positions, straining some muscles, relaxing others progressively to rest the body.

when he is too wide awake to sleep encourages playing in bed.

Muscular efficiency tests show that the longer the subjects slept, the better was their muscular performance. Some adults were found to sleep longer with an alarm clock set, while others would sleep longer without the clock. It was found that the majority of those tested are very inaccurate in estimating the length of time that they have slept, but many will awaken spontaneously at the habitual hour in the morning.

Toward the end of the night, sleep is usually lighter than during the middle. Upon awakening, efficiency is not usually as great as it was before retiring, even after eight hours of sleep, and efficiency tests show impaired performance after only two hours sleep. Likewise many people feel much worse after a nap. For others, any rest or sleep is immediately refreshing.

It is difficult to diagnose a slight insufficiency of sleep, but the results of experimental deprivation of sleep are more marked. Mild mannered persons became ill-tempered under continued efforts to keep them awake, and their behavior resembled that of well-trained children who often become unmanageable if allowed to forego their usual bedtime. Another feature was irrationality of action, semi-dreaming or hallucinations. The students in these experiments became cantankerous and suspicious. These tests, involving memory and speed and accuracy showed attentiveness and ability to concentrate were lessened. The sleepy individual could make a short-lasting effort but could not sustain it. Active physical work was much easier than mental work.

Decrease in sensory acuity, quickness of reaction, motor speed and memorizing ability was most marked between 3 and 6 o'clock in the morning, but improved during the day, especially after a brisk walk. As wakefulness was prolonged, sensitivity to touch remained unchanged, but pain reactions increased.

These lack of sleep studies indicate a fatigue of the higher levels of the cerebral cortex —the levels that are in constant operation during the period of wakefulness and are responsible for the critical analysis of incoming impulses and the elaboration of adequate responses determined by the individual's previous experience. It was found that the time taken to regain normalcy after a loss of a few hours' sleep is disproportionately great, but this return is gradual and regular.

Extensive observations and experiments were made to determine the physiologic differences between sleep and wakefulness. Some of these differences were fully accounted for by lack of activity. People were allowed to lie down all night but not allowed to sleep. Their wakefulness could not be maintained as long as when they exercised.

Lying down lowers the heart rate. Daytime sleep causes a smaller drop in pulse rate than night sleep, but loud noises or movements of the sleeper will cause pulse variations. Uneasy sleep with exciting dreams may accelerate the heart. Highly excitable children showed greater differences in heart rates than phlegmatic ones.

When the students reclined all night, but were not allowed to sleep, the fall in blood-pressure was less than when they were allowed to sleep. Blood-pressure and pulse-rate reach low points during the night which correspond to each other and to the point of deepest sleep.

Most people sleep in a position which leaves one hand free. Each person has a number of favorite positions, straining certain muscles and relaxing others progressively to rest the body. The eye muscles hold the eyes in positions which are different from those found in wakefulness.

Sleeping persons were studied and tested. Brushing the sleeper's cheek with a piece of paper often elicitated a facial grimace and a movement of the hand to scratch the stimulated area. The knee-jerk decreased in proportion to the state of relaxation.

Digestion is not affected by sleep. Basal heat production is decreased during sleep at the same time as muscular relaxation. Body temperatures decrease with inactivity or sleep and fluctuate during the day, reaching a low point during the night and a peak in the middle of the waking period. Tests showed that this peak coincided with peak efficiency. Highest body temperature, best performance and lowest fatigability are usually reached in the afternoon. Efficiency may drop following a heavy meal, but efficiency curves for the day follow body temperatures.

Kleitman and his assistants studied the practicability of changing the 24 hour sleep-wakefulness cycle. They conducted this experiment with a constant light factor, no noise, and a steady temperature. They tried both a 28 and 21 hour cycle and established the feasibility of the new cycle under controlled laboratory conditions.

This cycle is internal, conditioned by repeated performance. Habit regularity aids the efficiency of the sleep and wakefulness phases. Seasonal and *(Continued no page 837)*

His young daughter pricked herself; developed blood poisoning.

SULFA-MIRACLES

Discovery of the sulfa-compounds has been hailed as the greatest medical event since Pasteur exposed germ life.* LOIS MATTOX MILLER *describes some of the amazing lifesaving feats performed by sulfanilamide, sulfapyridine and the more newly perfected sulfathiazole

CONSERVATIVE by tradition and training, doctors are loath to designate even the most spectacular achievements of their profession as miraculous. Yet available to every physician today there is a group of drugs whose wonder-workings cannot be described adequately by any other term. They have slashed the death rates of many infectious diseases to a mere fraction of their former grim standards. Last year, in the United States alone, these little chalk-white tablets shifted the balance from certain death to life and health for no less than 50,000 sufferers of pneumonia, puerperal infection, scarlet fever, meningitis, gas gangrene and a score of other diseases that used to be considered dangerous or fatal. This year the record should be even more impressive. The wonder-drug, sulfanilamide and its allied compound sulfapyridine are definitely out of the experimental stage; experience with sulfathiazole is accumulating rapidly. Remarkable as their performance has been to date, the really great era of "sulfa-miracles" is only dawning.

Discovery of the sulfa-compounds has been called "the greatest event in medicine since Pasteur discovered the germ."

Every generation of medical scientists since Pasteur has dreamed of a chemical powerful enough to destroy bacteria within the human body without harming the body itself. Dr. Paul Ehrlich, of "magic bullet" fame, dreamed of a whole arsenal of drugs, each capable of destroying some specific bacterial invader as effectively as his salvarsan destroys the spirochetae of syphilis. But even before Ehrlich died in 1915, an obscure Viennese chemist had synthesized a chemical molecule which he called *para amino benzene sulfonamide* and considered useless except as it produced a new textile dye.

In 1935, Dr. Gerhard Domagk developed prontosil, a brick-red powder which included sulfonamide, and he used it experimentally to prevent a wide variety of bacterial infections in rabbits and mice. Then one day, it is reported, his young daughter pricked herself with a sewing needle and developed a serious blood poisoning. Medical and surgical measures failed. The doctors pronounced the infection fatal. Domagk, in desperation, decided to try prontosil. To every one's amazement, the infection disappeared and the girl recovered.

Publication of Domagk's report on prontosil caused a sensation in Europe. Variations of his drug appeared in quick succession in Germany and France, each claiming greater control over diseases caused by the dreaded pneumococcal, streptococcal, straphylococcal, and gonococcal germs. But American and British doctors and research chemists proceeded cautiously. Not wholly satisfied with results, and convinced that the true value of the drug was still unrealized, they began taking prontosil apart, reassembling it in different forms. They found that, of its several ingredients, only the sulfonamide particle really worked.

With new chalk-white compounds they made further tests on animals; and then carefully controlled tests on large groups of human beings. Thus sulfanilamide—which is the official name of the "mother drug" in the United States today—is no nine-day marvel. As the long-sought wonder-drug, it surpasses even the most ambitious dreams of the medical pioneers. For it is not just the specific cure for one disease, but works remarkably on more than thirty different diseases of bacterial origin.

When the first long-range experiments in sulfanilamide therapy of pneumonia were started in the United States in 1937, the standard death rate of the disease stood above a grim 25 per cent. Each year about 450,000 Americans were stricken, and each year about 120,000 died. At the Western Pennsylvania Hospital the doctors selected for their tests victims of type III, the deadliest of the thirty-two different types of pneumonia. One group of type III patients received the little chalk-white tablets; another group only the conventional care. The results astonished even the doctors who were ardent champions of the new drug. Patients on sulfanilamide responded to treatment within 24 hours after the initial dose. The crisis came quickly, temperature and pulse returned to normal, breathing became easy. Four out of five recovered, while in the "control" group under conventional treatment, four out of five patients died. In the most generally fatal type of pneumonia, the new drug had reversed the odds!

These results were duplicated in other hospitals, and sulfanilamide was applied to all thirty-two types of pneumonia. Then, with the development of the first of the "allied compounds," sulfapyridine, the average of recoveries increased. Still seeking the most difficult cases they could find, the doctors in a New York hospital chose a large group of patients between 60 and 90 years old, an age-range in which pneumonia is usually fatal in 75 per cent of all cases. Sulfapyridine cut the death rate in this old-age group from 75 per

cent to 23.5 per cent! And the doctors noticed that the "fever period" of the disease was reduced from an average of 12 days to about 72 hours.

And the new sulfonamide drugs are available to pneumonia victims everywhere, in remote villages as well as big city medical centers, and to rich and poor alike. They are not a substitute for serum treatments which incidentally require time for sputum analysis and "typing" in properly equipped laboratories. The little chalk-white pills which act in their own way are inexpensive and can be handled by any physician without loss of valuable time. During 1938 and 1939 their wider use showed that the pneumonia death rate could be cut from 25 per cent to something like 5 per cent. One distinguished professor joyously proclaimed to a medical convention: "People just won't die from pneumonia any more."

But the conquest of pneumonia is only one dramatic chapter in the brief, incredible story of the "sulfa-miracles." From the beginning, the sulfanilamide pioneers kept their eyes focussed not on the diseases, but on the germs —the pneumococcus, streptococcus, staphylococcus, gonococcus, etc., each of which is capable of producing a wide variety of diseases. This gave the doctors the whole vast range of bacterial infections as a field of battle. Carefully, they picked their objectives and applied the new weapons of chemical warfare.

In England one group of doctors attacked puerperal infection—the "childbed fever" that has long been the scourge of maternity—which then had the appalling death rate of 23 per cent. Administering prontosil to 238 mothers stricken by the disease, they lowered deaths from childbed fever to 4 per cent. Then in a Paris hospital, the drug was tested as a preventive measure, and over 2,100 expectant mothers were given sulfanilamide before being taken to the delivery room. Whereas there had always been at least one serious case of puerperal infection in the maternity ward at all times, not a single death from the disease occurred during the year of the experiment.

Other investigators tackled streptococcal meningitis, an insidious infection of the lining of the brain and spinal cord, which then rated as a ruthless killer with an average of fatalities close to 100 per cent. Medical records for half a century listed only sixty-five known recoveries from the disease; and in 15 years all thirty-seven victims admitted to Johns Hopkins Hospital had died. But sulfanilamide shattered that ghastly record. In a single year forty cases treated with the drug recovered. From Johns Hopkins' celebrated pioneer in sulfanilamide therapy, Dr. Perrin H. Long, came this estimate and opinion:

"The available evidence tends to show that sulfanilamide has reduced the case fatality from 97 per cent to about 35 per cent. This latter figure can be made lower if the disease is recognized in its inception."

Then erysipelas, sometimes called "St. Anthony's Fire," was taken in its turn. This disease produces a severe burning and itching of the skin, kills about 15 per cent of its victims, and among young children and old people the death rate runs as high as 75 per cent. Doctors in the United States, using sulfanilamide, reduced deaths from the disease to about 4 per cent; while in Glasgow, Scotland, among 261 patients treated with the drug, the record was lowered to 2.3 per cent.

For years doctors had stood by, puzzled and helpless, while trachoma, a painful disease prevalent among North American Indians, as well as among the peasants of South America and Asia, burnt out vision and brought total blindness. Then in 1938 came "one of the most startling reports of the therapeutic use of sulfanilamide." A doctor who had applied the drug in 140 cases announced "immediate improvement."

Formerly, gas gangrene, an infection of wounds which has often meant either death or amputation. But not since the introduction of sulfanilamide! Says Dr. Long, who urges physicians to administer the drug even in cases where gas gangrene seems a remote possibility: "The rapidity with which gas bacillus infections are brought under control by sulfanilamide therapy is often amazing."

Scarlet fever, gonorrheal arthritis, and otitis media—an infection of the middle ear which frequently results in mastoiditis—are only a few of the other diseases which have been treated with spectacular effects. The list grows longer as carefully verified reports from hospitals and clinics disclose new uses of the drugs.

Only recently two St. Louis doctors successfully used the latest of the compounds, sulfathiazole, to fight impetigo in a nursery. This skin disease produces large "weeping" sores, and is often fatal to infants and young children. The doctors conceived the idea of putting sulfathiazole in the bath soap. The impetigo disappeared rapidly, only to reappear when the supply of medicated soap was exhausted. Thus an- *(Continued on page 804)*

The Teacher as a Diagnostician

Teachers must learn to diagnose behavior; seek for causes.* DOUGLAS E. LAWSON *presents a case history illustrating how improper judgment may seriously warp a student's personality pattern

"I WAS completely exasperated," Miss Smith exclaimed. "I suppose I've spent more time on Bob than all the rest of my pupils together. He literally wears me out! Today was simply the last straw. I can't stand insolence in a pupil. I told him to hurry to his seat, and he just stood there with that affected and silly blank look he has. Then he sauntered back to his desk with that proud walk of his!"

"Doesn't he have the silliest way of walking!" exclaimed Miss Brown. "I had him in my grade last year. Walks as though he were on exhibition. I called him down lots of times, but it never did much good. Well, what did you do today?"

"When he got to his seat at last, he looked up at me with that sort of supercilious smile of his, as if to say, 'I do as I please.' So I simply sent him right down to the principal."

"That's right! Bob's one of the brightest boys in your room, and there's absolutely no sense in letting him get away with his smartness."

"Yes! That's just it! If he had been a pupil with a low I. Q., I'd have been the last person in the world to blame him for his stubbornness. But there's no excuse for a boy with an I. Q. of 120 acting as insolently as Bob does."

"Here he comes now," said Miss Brown. "He walks as if he had a poker in his spine. Look at that affected way he swings his arm."

Dr. Renaut of the Bureau of Child Guidance placed a chair near the desk.

"Be seated, Miss Stephens," he invited. "I understand that you are the teacher of one of our boys."

"Yes," said Miss Stephens. "I submitted his name to you several weeks ago because of his slowness in school work. He seems very bright, but he is the slowest pupil I ever saw. I think I gave you a full description of his behavior in the report you asked me to send you."

"Yes," smiled Dr. Renaut. "I have it here. You wrote a clear report. I notice that you have taken quite an interest in the boy and have apparently been patient with him."

"Well, I was afraid I might misjudge him. You see, I'm new here this year. Miss Smith, his teacher last year, reported to me that he was extremely slow with her and—"

"Yes, I presume so, Miss Stephens." Dr. Renaut paused a moment, shuffling the papers on his desk. "You see, Miss Stephens, in checking Bob's case, we have secured his record from the family physician. Our psychiatric social worker has corroborated the doctor's evidence by talking with the parents."

"Did you find anything physically wrong with him?" Miss Stephens inquired.

"Miss Stephens, this boy is suffering from the after-effects of a brain infection. We have given the boy a thorough examination and gone through his records carefully. Our conclusions coincide with the opinion of his family physician."

"What is the nature of such a disease?"

"Bob had a serious illness when he was a small child," Dr. Renaut explained. "In his case, it involved a serious operation and a prolonged period of fever. These mannerisms are noticeable effects of this illness on his nervous system, and from these he will probably never recover. This does not necessarily mean that there will be a further deterioration of the brain, but rather that his control over certain muscular movements has been permanently impaired."

"I thought he was slow," said Miss Stephens, "but I didn't know why he should be."

"You see," Dr. Renaut continued, "in a case of this sort, it is not uncommon for the patient to evince poor motor control in some respects. The peculiar fixity of Bob's upper facial muscles is characteristic of the postencephalitic epileptic victim. You noted the way in which he holds his shoulders, sometimes giving the

impression of a deliberate affectation in walking. That is one symptom. His slowness in response confirms the diagnosis. It is impossible for him to respond more quickly, and this slow reaction time is normal for him. It is something that cannot be corrected, and something, of course, for which he must not be held responsible."

"I'm glad to know that doctor. One of his former teachers told me that he was stubborn and insolent in his attitude. Probably his supposed insolence was a misinterpretation of his condition."

"Of course it was, Miss Stephens. Teachers are seldom able to make a correct diagnosis. I suppose thousands of children with the same trouble that Bob has have gone through our public schools, victims of severe disciplinary measures. Bob should no more be punished for his manner than should I for the color of my eyes. Yet, he tells me that he has been boxed across the ears more than once by his former teachers."

Miss Stephens winced at the recollection of her own misguided efforts to discipline Bob.

"I suppose," she mused, "that there are other conditions for which children are likewise blameless, but which are misinterpreted by teachers and parents."

"There are," Dr. Renaut agreed. "Of course, the public schools are more intelligently administered today than formerly. A German schoolmaster named Hauberle, during fifty-one years of teaching, kept a complete record of his disciplinary actions. During his service, he struck nearly 2 million blows with his fists, with switches, ferrules, paddles and other objects. In 1845 a survey of Boston's school system, revealed that in the average school of 400 pupils approximately sixty-five floggings were administered each day. Think of it! Sixty-five floggings! I wonder how many were given to helpless victims like Bob, who were unable to correct their slightly eccentric behavior."

"What do you suggest, Dr. Renaut, as a remedy for this condition?"

"I believe that the remedy lies in awakening the academic profession to the need for employing clinical technic. A good teacher should become aware that the services of psychiatric, medical and psychologic research are available. A bureau of child guidance should be a part of every good school system. Yet thousands of small schools are unaware that progressive systems are making rapid strides in clinical diagnosis, remedial education and guidance.

"Bob should no more be punished for his peculiar mannerisms than I should for the color of my eyes."

"You see, Miss Stephens," he continued, "educational concepts have changed with the discovery of new information in the fields of psychology and medicine. The old disciplinary aims have been largely abandoned. The good teacher is no longer a judge of conduct."

"Why is that?" Miss Stephens asked. "Must not a teacher always judge conduct?"

"No. Pupils are motivated by what they are; because of their environment, heredity, health and training. The good teacher, like the good doctor, thinks of the case impersonally and seeks for causes. The good teacher, then, should be a diagnostician of behavior, rather than a judge of conduct. And in her diagnosis she always has in mind the future of the child. She asks, 'What will this personality trait or this behavior response eventually do to this child?' And in terms of the answer to that question she judges the seriousness of the child's conduct."

"Really," the young woman told the doctor, "I hadn't looked at it exactly in that way before. But I am able to see your point of view."

"I'm glad you do, Miss Stephens. Wickman made a study of certain behavior traits among pupils. He took a list of fifty different types of misbehavior and asked a group of clinical psychiatrists and social case workers to rate them. Then he gave the same list to a group of teachers and had them make a similar rating."

"That is interesting. What did he find?"

"He found that teachers and clinical experts do not agree at all. The teachers marked those things which disturb their routine. But a good psychiatrist knows that those things are most significant which threaten to warp the personality of the child. An asocial attitude, for example, is the greatest crime of which a child can be accused, Miss Stephens. It is a crime against his own personality, and a dangerous thing. But who ever heard of a teacher's becoming greatly concerned about the quiet, moody pupil?"

"I believe most of us give low conduct marks to the noisy pupil—the one who is socially inclined and full of life," Miss Stephens admitted.

"Yes," said Dr. Renaut. "But I know of a boy who received an A in conduct every month. He was a model boy from the teacher's standpoint, but failed to make the normal social adjustments of adult life. He disturbed no one, talked to no one. His teacher, instead of rewarding him with the implied approval of a

good mark in conduct, should have been terribly concerned about that boy's seriously wrong conduct. The state of Missouri hanged that boy three years ago for a heinous and brutal crime. You see, Miss Stephens, there are things in school life far more important than conduct marks. Normal adjustment, for example. The good teacher should be, as I said, not a judge of conduct, but one who diagnoses behavior and seeks for causes."

Dr. Renaut paused.

"I had not realized the opportunity that the average teacher has," the teacher confessed, as she rose. "I can assure you that you have given me a much better understanding of Bob."

"There are lots of 'Bobs,'" the physician reminded her. "They need skilled help and a great deal of intelligent planning, Miss Stephens. That is where a teacher has a chance to be a teacher in the highest sense that the word can convey."

Miss Stephens thought of the last words he had spoken, as she left his office. In her mind was a picture of Bob, the boy with the fixed expression, the friendly eyes, the fine mind—and the handicap which meant a challenge for her best efforts as his teacher.

Is Nervous Tension Spoiling Your Fun?

Try These Simple Rules

FOR HOUSEWIVES . . .

1. Keep a chair or stool in the kitchen so that you may be seated while you work.
2. Avoid body strain by wearing sensible shoes; not bedroom slippers.
3. Eat at mealtime, and keep away from the icebox between times.
4. Set aside a regular rest period each day.
5. Do not be excessively fussy about housework; strike a happy medium instead.

FOR WOMEN OF LEISURE . . .

1. Include physical activity in your recreational program.
2. Do not make bridge, night clubs and fashions the focus of your life. Instead, develop an interest that will benefit others.
3. To avoid becoming too introspective, interest yourself genuinely in those who serve you.
4. Do not cram your day with excessive schedules; rest periods are equally essential whether you punch a time clock or not.

FOR STUDENTS . . .

1. Plan your assignments in advance to avoid "deadline tension."
2. Schedule leisure time, and use a portion for physical exercise.
3. Do not stint your sleeping hours because of a mental "second wind" late at night.
4. Keep your sleeping time regular.
5. Avoid worry; fear is an extra burden on your mental equilibrium.

FOR BUSINESS AND PROFESSIONAL WORKERS . .

1. Avoid the strain of immobility; get up and stretch, or relax at your desk and let your mind rest.
2. Keep away from deadlines, unless necessary. Anticipate tasks and allow them sufficient time. Develop a sense of humor about yourself, and your relative importance in the world.
3. Walk for relaxation, even if it's only to the office.
4. Keep your leisure programs simple.
5. Find pleasure in the everyday things; they are more relaxing than complicated diversions.

FOR CHILDREN . (who usually require controlled relaxation)

1. Do not insist that your child be constructively occupied all the time. Many benefits are derived from aimless "fooling around."
2. Provide definite mid-afternoon rest periods.
3. Enforce a regular bedtime for your child, and don't always leave him with the idea that you are rushing out for a good time.
4. Set him an example by maintaining a regular bedtime yourself, so that he will not believe such habits "childish."
5. Do not let him play strenuous games for prolonged periods.

H. Armstrong Roberts

Let yourself go—RELAX!

By LEONARD ALLEN

A FEW TIMES each day a prominent Wall Street lawyer rises from his desk and walks slowly past his secretaries into the outer office. There he takes a leisurely drink from the water cooler. He has just one glass and returns to his desk, even though he may still be a bit thirsty. He wants to feel like returning within an hour or two. And he does return.

"How inefficient," you say. "Couldn't he avoid those interruptions by having a little thermos jug on his desk?"

But he wants those interruptions! They break his long, physically inactive periods of concentration, and provide him with the relaxation he values highly. Such short "vacations" from his desk, scattered throughout the day, pay ample dividends in the constant freshness he can bring to his work.

Unfortunately, most people have never learned this or any of the other simple relaxing devices useful in combating one of the chief bugaboos of our high-powered civilization—nervous tension. Its symptoms may be seen everywhere: biting lips or nails, wringing handkerchiefs, fidgeting, constant scowling, clenching fists, quick irritation, fingering the face, cracking knuckles or tapping toes. They are all evidences of residual tension, a constant strain of nerves and muscles which prevents the individual from relaxing. For, simple as it seems, relaxation is an art, unknown to most persons. They must start from the beginning and learn to relax.

To this end Miss Josephine L. Rathbone, Ph.D., assistant professor of physical education at Teachers' College, Columbia University, has worked out a program based on eight years of study in the field of nerve and muscular tension. Her observations have formed the basis for a course in practical methods of relaxation.

What causes excessive tension? Chiefly the machine tempo of modern life, says Miss Rathbone. It is the result of constant strain and rush to get things done. The sharp demands of economic and social life and the high premium which our society places on worldly success, exact a heavy tribute from our generation.

We work too hard and play too hard. There is no intelligent planning of life to establish a sane balance between activity and repose. We overwork as much in hectic leisure time, as from energy expended in salaried hours. And if that sounds strange, consider the three Park Avenue matrons recently enrolled in Miss Rathbone's relaxation class. With unlimited leisure at their disposal, they nevertheless suffered from "overwork." By planning their time unwisely, they had assumed excessive burdens of social and philanthropic activities so that they had driven themselves to a state of fatigue in which they could not possibly relax.

Thoughtless cluttering of leisure time is not limited to the rich. Too many otherwise intelligent persons subscribe to the vicious theory that "you must always keep busy." A widowed teacher of 49, burdened with huge classes and petty routine all day, also tried to manage a household of three grown boys. In addition, she insisted on a crowded recreation program —swimming, lectures, candy making, crocheting, visiting sick friends. The fast pace left her moody and tense. Only when she lost her voice and was sent on a cruise by her doctor, did she try relaxation and learn its power to banish nervous tension.

Frantic striving for social or business success can bring the same discomfort. A 22 year old stenographer, impelled by an overweening desire to become an attractive and cultured woman, left home to set up an apartment in a Bohemian section of town, where she entertained frequently. She also joined art groups, hoping to find satisfaction in creative activity. She planned no time for sleep, and was generally so overtired that her few hours of slumber were of little value. Relaxing methods helped her, but only when she slackened her social life sufficiently to permit regular time for repose. A man of 24 was so intent on swiftly reaching his business goal, that he drove himself through a program of work and study that permitted only four hours' sleep a night and one free hour a week.

Such cases are legion. Both work and play lead to tension, and often they are joint causes. People unwisely assume that vigorous recreational activity will naturally neutralize tension developed on their jobs, but this may not be true. Unless rest is an intermediary, new exertion will simply create added strain.

Recreation loses much of its value when it involves activity too closely resembling daily work. A white collar worker who is confined to his desk all week often finishes the voluminous Sunday paper and says wearily, "Gosh, I feel more tired now than after a day at the office!" He is not exaggerating. If sitting indoors and reading is his work, it should not be his relaxation. He should be outdoors in some active pastime. Prof. William Lyons Phelps of Yale, who has a heavy intellectual program of lectures, classes and writing, manages to play golf a few times each week. Former Premier Edouard Daladier of France used to leave his office and ride a bicycle through Paris into the country, whenever he desired to relax. Avoid becoming one-sided. Make physical activity in leisure time balance mental working hours, or vice versa.

But no matter how you spend your leisure, always devote a certain portion of it to complete rest. Dancing, parties or movies do provide diversion, but they also present a constant stimulation. A quiet evening in an arm chair, chatting with friends, is invaluable relaxation.

Refreshed by the wise use of leisure time, you can ward off fatigue on your job considerably by a little further planning. Why not break up long stretches of work by walking about now and then? Busy executives have been known to retreat to a movie for an hour or two at midday and then come back to the office refreshed and energetic.

Others have set aside definite times for dropping activity completely. Former President Coolidge retired to strict seclusion in his room after lunch each day. A New York business man has put a cot in his office closet, and lies down there for five minutes every hour. General Chiang Kai-shek, China's war leader, not only dozes off after lunch, but also saves energy for his heavy program by doing as much work as possible while lying on a sofa.

Many offices and factories have adopted standard rest periods throughout the day. In some firms a bell rings *(Continued on page 820)*

Little Medical Heroes

By JOHN LENTZ

MEDICAL history has been recorded largely in terms of mice and men. That is to say, credit for the great achievements of medicine have been attributed almost wholly to certain outstanding scientists. Even the physicians' laboratory cohorts, white mice, have in many instances been glorified for their roles in the fight against disease. And yet the history of medicine contains the names of many laymen whose contributions have gone unnoticed, despite the fact that they loom large in the development of the healing art. The man on the street does not know that few contributions to medical progress are of more importance than those made by boys and girls, from premature infants to adolescents. It is time for these little medical heroes to be rescued from obscurity!

James Phipps, a lad of eight, was perhaps the first child to fulfill a crucial role in the annals of medicine. Prior to the introduction of vaccination against smallpox, this disease took a sweeping toll of lives. Smallpox was indeed the monarch of all diseases, and the entire world was its empire. But in 1796 Edward Jenner, a kindly English physician who resided in the village of Berkeley, decided to test a theory which he had evolved for the control of smallpox. This theory, which had engrossed Jenner's thoughts for twenty-five years, was based upon a statement which a patient had made to him during the early days of his medical apprenticeship. While discussing smallpox, the patient remarked: "I cannot have that disease, because I have had cowpox."

Jenner never forgot that statement; and when he returned to his native village to practice medicine, he discussed the subject with his neighbors. There he found that the people of the countryside held the same belief. Jenner studied this problem "long and sorely," and he came to the conclusion that cowpox was simply a modified form of smallpox, and that the mild form of the disease protected human beings from the severe or fatal type of smallpox. Desiring to test his theory on a scientific basis, he wrote to his famous teacher, John Hunter, for advice. Hunter replied: "Don't *think*, but

Some matter from the hand of a milkmaid infected with cowpox was rubbed into scratches on his arm.

try; be patient, be accurate." This was the spur Jenner needed to carry on with his investigation.

On May 14, 1796, Jenner took some matter from the hand of a milkmaid who had become infected with cowpox while milking her master's cows. This matter was rubbed into two superficial scratches on James Phipps' arm. The child suffered no discomfort, and on the first day of the following July, virulent matter from a smallpox lesion was carefully rubbed into James' arm. Just as Jenner expected, the child did not develop the disease, thus proving to him beyond question the possibility of smallpox vaccination.

It is not known how Jenner happened to select an 8 year old boy for the initial experiment. But it is quite possible that James' parents had been protected from smallpox because they had recovered from cowpox, and realized there was no great risk involved in having James undergo the test. Unfortunately, no record exists of the conversations that must have taken place between Jenner and young James, a record which would have revealed much about the relationship between the kindly village doctor and his young friend. Although Jenner was sure that James would suffer no ill effects, he must have experienced many uneasy moments before the test was completed.

The story of this discovery is one of the classics of medicine, and Jenner is ranked as one of humanity's greatest benefactors. But young James who helped to halt the plague was never honored.

Jenner, however, never forgot the service which this child rendered to science. In later

years, he built James Phipps a home, complete even to a flower garden which Jenner laid out and stocked with roses.

There were other children besides James Phipps who helped medical men to spread the practice of vaccination around the globe. Spain was one of the first nations to recognize the benefits of smallpox vaccination; and quite naturally the Spanish government was eager to introduce this protective measure to the people of its colonies in the New World. Accordingly, an expedition "for the propagation of vaccination throughout the universe—to friend and foe alike" set sail in 1803 under the direction of the Surgeon-Extraordinary to the King of Spain. The cargo of this ship was perhaps the most amazing that has ever sailed the seven seas! On board were 22 unvaccinated children who were to be vaccinated at intervals during the voyage. Methods of preserving vaccines were unknown then, and the only way in which a supply of the vaccine fluid could be maintained was to transmit the protective cowpox matter from the arm of one child to another! Two children were vaccinated each week to insure a supply of the fluid. This romantic expedition circumnavigated the globe, to return home three years later, after stopping at the Canary Islands, Puerto Rico, South America, Cuba, Yucatan, Mexico, China, the Philippine Islands and many other distant lands. Everywhere this "glorious and noble enterprise" was welcomed with religious pomp and ceremony.

The demand for vaccination, however, was so great that it was necessary to add to the pilgrimage 26 additional children to increase the supply of vaccine. It is impossible to estimate the extent of the blessings which these little medical heroes spread throughout the world. Yet there is no record of any reward or recognition having been given to the children who made possible this vaccination crusade. Perhaps, as we say today, they merely went along for the ride!

News of Jenner's great discovery was not long in reaching North America. The printed reports concerning vaccination, however, were received by the public with indifference. They looked upon this discovery as a medical whim that was here today and would, in all probability, be gone by tomorrow. But this was not the attitude of Benjamin Waterhouse, Professor of Theory and Practice of Physick [medicine] at the University of Cambridge, Massachusetts. Waterhouse was quick to estimate the advantages of the discovery, and began to collect and study every important publication on the subject. After corresponding with Jenner to obtain first hand information concerning vaccination, Waterhouse published an article in the *Columbian Sentinal* on March 12, 1799, under the heading "Something Curious in the Medical Line." This article, however, failed to arouse much public interest in vaccination.

"Evidently," Waterhouse said, "distance of space operates on some minds like distance of time. People are not ready to believe what happened a great while ago, or a great way off. I therefore find it necessary to bring the matter home to us and to repeat in America the experiments performed (by Jenner) on the other side of the Atlantic."

Since Waterhouse was thoroughly convinced of the efficacy and safety of vaccination, he decided to introduce the practice in America by vaccinating his own children. Thereupon, he secured a supply of the protective cowpox matter from Bristol, England.

The first person in America to undergo vaccination was Waterhouse's 5 year old son, Daniel Oliver Waterhouse. The cowpox material was rubbed into a scratch on the child's arm by his father, according to Jenner's instructions. "My boy went through the procedure in so slight a manner as hardly to express any remarks of peevishness," wrote Waterhouse. Daniel's 3 year old brother was vaccinated next, and he likewise "went through the procedure in a perfect and satisfactory manner." Then a 12 year old servant boy was vaccinated. He suffered no ill effects, with the exception of "a stiffness of the muscles in the neck, which soon vanished with the help of a few remedies." Finally, Waterhouse's infant daughter, "already weaned and 1 year old," was given the protective treatment, and she, too, "went through the procedure with regularity," he wrote.

Later, when these children "were in the plentitude of health," they were inoculated with smallpox matter, but the disease did not develop in any of them. Twelve days later the children were dismissed, and Waterhouse exclaimed: "A fact like this is worth a thousand arguments!" Thereafter, the practice of vaccination spread rapidly in American communities.

Thus, one of the most valuable of all protective measures against disease was established largely because doctors enlisted these little medical heroes to fight and conquer smallpox.

NOTE.—Next month Mr. Lentz concludes the story of the role children have played in medicine.

Deadly Disease

Automobile accidents cause relatively few deaths among the very old and the very young. The majority of these deaths occur during the most productive period of human life. There are many campaigns for the prevention of automobile accidents and apparently they are beginning to show results. In the article which follows, Mr. Reeder of the National Safety Council indicates some of the campaigns which have yielded the best returns. The experiences of cities, counties and states already carefully recorded show that the licensing of drivers, which includes a suitable physical examination, should be added to the educational plans described by Mr. Reeder to bring about the most permanent effects in lowering death rates. Certainly the provision of Red Cross stations to provide emergency treatment along the roads and the development of suitable plans for hospital care have been helpful in minimizing many serious accidents.

For pedestrians, certain rules have been developed which every one ought to obey:

The safe walker does not step out carelessly from behind parked cars or obstructions.

He does not try to weave his way through traffic.

He crosses streets at right angles.

He uses care in getting on and off vehicles in traffic.

He looks left and right when crossing a street.

He obeys traffic signals.

He holds his conferences on sidewalks, not in the middle of the streets.

Careful children do not play in or on the streets.

The pedestrian walks toward traffic, not with it, on open highways.

He uses particular precautions when walking at night.

Remember also that many automobile accidents occur because some one has fallen asleep at the wheel or because some one has been careless about taking alcohol before driving. The human body is built to withstand only a certain amount of stress and fatigue. Never drive when you are sleepy. Never drive when alcohol has lowered your sense of perception and delayed your reaction time.—ED.

Number 8—

While obviously not a disease, traffic casualties have been, nevertheless, listed as one of ten most probable causes of death.* EARL J. REEDER *outlines the three "E's"—engineering, education and enforcement, which have been amazingly proficient in making highways safe for both the motorist and the pedestrian

FORTY-FIVE years ago a revolution started in this country in methods of highway transportation. Recorded quantity production of motor vehicles which started with four in 1895 has reached yearly production peaks of over five million since then—a total output of over seventy-five million. Last year's entire motor vehicle registration was thirty million, showing that almost one half of the total number of cars manufactured are still being operated on our streets and highways.

The motor vehicle has been and will continue to be a great blessing to society. It has come so fast, however, that the revolutionary character of the change has not enabled us yet to become fully adapted to the new mode of transportation, although rapid progress has been made.

Against the accrued benefits of this type of transportation we must charge a toll of life, limb, and property resulting from this delay in adaptation. In 1939 this toll was 32,600 lives, 1,150,000 personal injuries, and about five million cases of property damage. Even this death toll was actually a decrease of nearly 18 per cent under the peak year of 1937. The ground thus gained threatens to be lost in part in 1940, for there has been an increase of 8 per cent in traffic deaths during the first six months as compared with the same period of 1939. This is far to great a price to pay in deaths, injuries and damage for the transportation which we enjoy in street and highway traffic and we must hasten our adaptation by every practical means by supplying better facilities for vehicular and pedestrian traffic; by creating a better understanding of the relationship between drivers and pedestrians; and by familiarizing both with conditions on and adjacent to the roadway.

The first of three major approaches to the traffic accident problem is engineering. It adapts streets and highways to the demands of new and increased transportation. It builds new highways and improves existing roads to provide adequate capacity for handling the traffic. It strives to eliminate hazardous conditions from the roadway by relocation, straightening, reduction of grades, and banking of curves.

Engineering tries to correct the disparity between night and day visibility. Although darkness shortens the driver's vision, hides hazards otherwise easily seen, and obscures the pedestrian, engineering tries to correct these deficiencies by providing safety lighting when traffic is dense or serious hazards exist; by reflectorizing signs and markings to show the direction of the road ahead and by improving the headlamps on the automobile.

Traffic conflicts are reduced by providing Stop and Go signals to avoid confusion where traffic is dense. Sidewalks are extended beyond the limits of cities to separate vehicular and pedestrian traffic in suburban areas where urban traffic conditions exist under the handicap of rural facilities. Roadways are often divided to separate traffic in opposing directions. Where traffic is dense and space is available, grade separations are some times planned.

While not all hazards can be completely eliminated, engineering provides signs and markings to inform drivers and pedestrians of potential dangers. If all hazards could be immediately eliminated the number of these devices could be greatly reduced; but until that can be accomplished, warnings and control equipment must be used liberally to safeguard against the dangers that are present.

Engineering also deals with the vehicle. Remarkable improvements have been made to simplify vehicle operation and to help insure performance faithful to the will of the driver. One needs but to compare the automobile of

today with the vehicle of a few years ago to see the vast change that has taken place in simplicity of operation and ease of performance.

In all these measures, engineering starts with the premise that drivers and pedestrians want to be safe in their use of the streets and highways. There is no better evidence of this than the fact that improvements, control measures, and safeguards have greatly reduced accidents at many dangerous locations. The primary purpose, then, of engineering in traffic regulation and control is to make it possible for drivers and pedestrians to exercise their desires for self-preservation more successfully.

The second important phase in acclimating drivers and pedestrians to changing traffic conditions is education. Its purpose is to acquaint both those who walk and those who ride with the facilities they must use and with their proper relation to each other as they intermingle in the use of the streets and highways.

Both drivers and pedestrians must become better acquainted with the limitations of vehicle performance; there must be better driver training. Fortunately, this is being recognized by many high schools in different parts of the country and substantial progress is being made in training young drivers. Similar progress has already been made in training young pedestrians in elementary and high schools. As a result our accident records show that among pedestrians in the 15 to 24 year age group, the group that has been receiving this training over a period of years, there are fewer casualties, proportionately, than in any group of older persons.

Recent studies of accidents in which pedestrians were injured have shown that more than 90 per cent of the victims were not drivers. In many cases pedestrians do not fully understand the limitations of the drivers and subject themselves to dangers beyond the power of the drivers to counteract.

Future generations will have become much better adapted to motor vehicle transportation than the generations that have witnessed its origin. However, we must not wait for time to effect that change. We must hasten that adaptation among the living generations for their protection.

Safety education has made use of the usual agencies of publicity and propaganda—the newspapers, the radio, and public speeches. As we have been selective in our improvement of street and highway conditions, by applying improvements at the points where accidents are most numerous and where congestion is most acute we must direct our education efforts to areas or population groups in which accidents are most common.

Spot maps of the residence locations of drivers and pedestrians involved in accidents generally reveal rather high concentrations in certain areas. It is obvious that these are the places where educational efforts should be intensified through the agencies that serve these sections.

Safety educational efforts may be considered a process of standardizing public reaction to the vehicular and pedestrian problems. It can be likened to the development of a code of traffic ethics designed to give drivers and pedestrians greater confidence in what others are going to do under different conditions. The special function of traffic safety education is to bring about greater voluntary observance of the requirements for traffic safety.

The third important phase in promoting traffic safety is enforcement, designed to bring the dissenting and negligent minority into conformance with the requirements of safety for the vast majority. Since it is not possible to enforce regulations that are unaccepted and disobeyed by the majority, successful enforcement depends on public approval.

We are yet in a stage in which some violations of established traffic regulations are inadvertent. However, marked progress has been made during the past few years toward uniformity of traffic regulations and control measures throughout the country and the opportunities for unintentional violations are decreasing. For that reason, enforcement now receives a greater measure of public acceptance.

The reaction of the public toward regulatory measures may be divided into three groups; groups which either protest or accept the measures, and a large majority which finally supports either of the other two groups, depending upon the degree of compulsion applied to the dissenting group.

When enforcement is strict and the majority group obeys the law, the problem becomes one of dealing with the dissenting group. However, if enforcement is relaxed and the dissenting group is permitted to commit traffic violations, the majority group will begin to question the propriety of the regulations and will follow suit.

The difference between good enforcement and poor enforcement may represent only a small change in activity. Leniency and lack of discrimination between unintentional and wil-

ful violations can quickly increase the number of violators to such an extent that the problem may seem almost hopeless.

There is some times a tendency to interpret enforcement entirely in terms of police activity and to overlook the importance of the court. The role of the court is just as important as that of the police. A lenient judge may easily frustrate police efforts, while a judge with an excellent conception of traffic law enforcement can support and encourage the police in their battle for traffic safety.

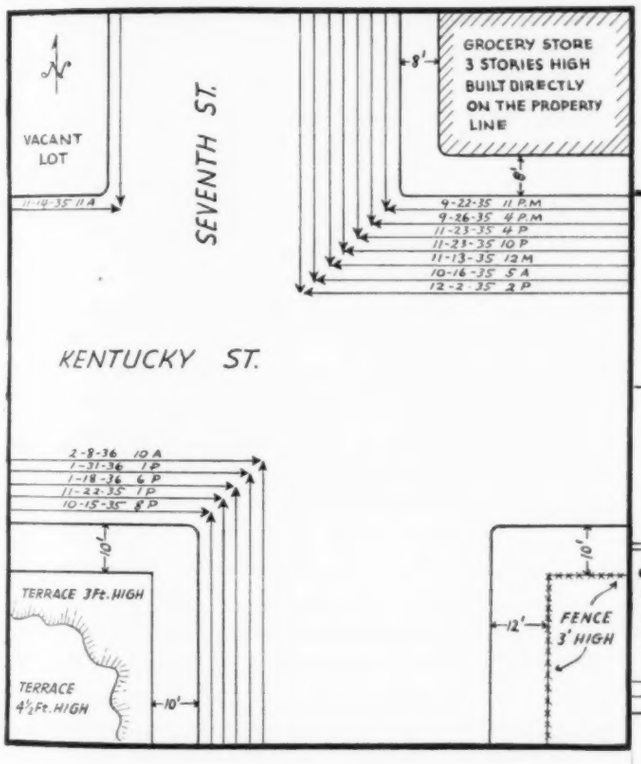
Together these three phases of traffic safety —engineering, education, and enforcement— form a coordinated program designed to hasten and sustain the adaptation of society to the present modes of transportation. Too often, progress has been retarded by overemphasis of a single element. Poor engineering can easily defeat the best educational and enforcement efforts. Inadequate public understanding can rob enforcement of the support that it needs. Lax or poorly planned enforcement can destroy the products of engineering and education.

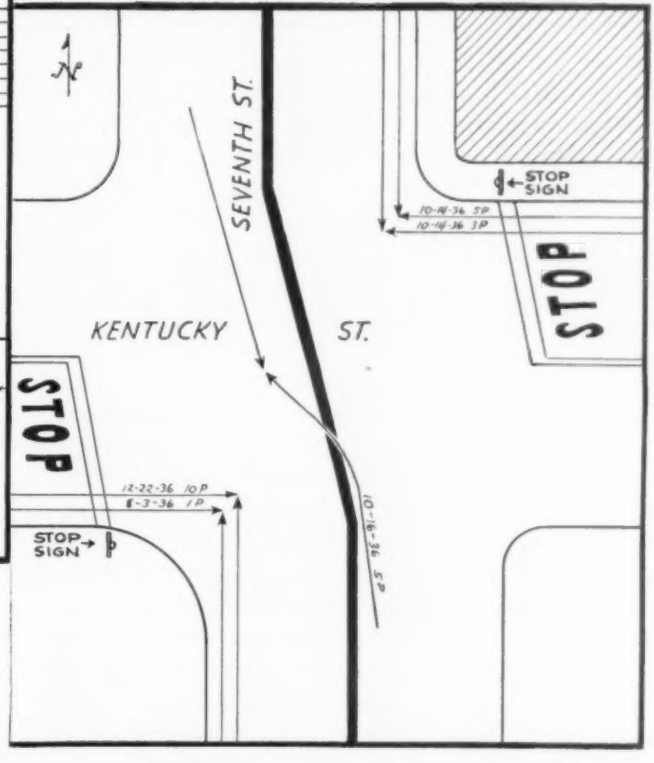
As the public gains newer conceptions of traffic problems and an understanding of its responsibilities, new engineering applications are needed to keep apace. When engineering improvements are made education is necessary so that they may be used properly. Adequate enforcement programs, naturally, must be concomitant.

Traffic safety is an important nation-wide problem. However, since motor vehicle accidents are seldom concentrated in time or place, the total does not appear to assume very large proportions. But its seriousness is no less important than that of death and destruction by spectacular catastrophes.

The number of traffic accidents has grown so that now it is listed among the first ten causes of death. As scientific methods have been organized to combat disease, so have organized efforts been made by many agencies to combat the traffic accident problem. The approach is scientific. New discoveries are being made constantly from the analysis of the causes of accidents and from the results of efforts in their prevention. As personal and community efforts combine to reduce the ravages of disease and calamity, so must personal practices and community efforts combine to reduce the toll of accidents.

BEFORE, the three-story structure on the northeast corner obstructed the views of the drivers coming east and south on Kentucky and Seventh Streets. The terrace diagonally opposite blocked vision going north and east.





AFTER a white line was added to guide drivers on the turn; signs installed to stop cross traffic and the terrace removed to aid vision, both the death toll and the personal property damage were drastically minimized.

PRESSURE COOKER MAGIC

Many new and clever improvements have been made since the original "marmite digestor" was invented more than 260 years ago. Here,* HARRIET M. FYLER *discusses the essential merits of modern cooking technic

PERSONS who are responsible for cooking and serving meals know that the kitchen of tomorrow, where chores will apparently be done with a wave of the hand, and where housewive's muscles will atrophy from lack of use, isn't as close as it might seem. But the ideal gets closer all the time. Some of the new pressure cookers now available are helpful in taking seven-league steps forward.

One of the seemingly unalterable facts about cooking—keeping all the burners blazing to get the meat and vegetables tender—is already on the way out. The pressure cookers now shown in the kitchen departments of many stores are really 1940 models of the old style pressure cooker. They cook vegetables in one minute and meat in ten minutes. Not only is the time reduced, but much gas is saved. In hot weather the burners can be turned off much sooner, an agreeable possibility when even the thought of cooking a meal makes the housekeeper feel that she might as well move to the tropics.

The new style pressure cookers are very different from the pressure cooker invented about 260 years ago by a young Frenchman, Denis Papin. Papin's "marmite digestor," as his cooker was called, was carefully described in 1681 under the title, "A New Digestor or Engine for Softening Bones, Containing the Description of its Make and Use in Cookery, Voyages at Sea, Confectionery, Making of Drinks, Etc." The vessel consisted of an air-tight container which when filled with saturated steam under pressure attained temperatures above 212 F., the boiling point of water. It even had a kind of a safety valve so that the steam pressure could be regulated.

Papin conducted many experiments with his cooker and found that meat thus prepared could be kept many weeks without spoiling. But few persons understood the principle of Papin's cooker; and consequently, from lack of regulation of both the fire and the resulting steam pressure, accidents usually attended its use. For this reason Papin's cooker was long regarded as an apparatus to be avoided. In 1811 Nicolas Appert discovered the cause of the accidents which had occurred in its use, and made an improved and enlarged model which proved that the pressure cooker was useful in food preservation. Today the pressure cooker is widely used for commercial and home canning of vegetables and meats.

Pressure cookers used in commercial canneries are mammoth affairs equipped with so many steam valves, pressure gauges, thermal controls and other instruments that it is necessary to have skilled engineers to operate them. Even the pressure cookers designed for the home canning of meats and vegetables are so heavy and cumbersome to use, that they are relegated to the storeroom from one canning season to the next.

But the new style pressure cookers come in sizes small enough to be useful for cooking food for two or four persons. They are almost as simple and easy to use as an ordinary

The new pressure cookers require amazingly small amounts of water, only enough to create sufficient steam to cook the food, and thus the large quantities of vitamins lost in cooking water is avoided.

saucepan and much more efficient. The covers fit into position with a flip of the hook or a twist of the lid.

Although the style of these pressure cookers differs radically from their predecessors, the principle of all pressure cookers is the same today as when Denis Papin first cooked food in his "marmite digestor." Briefly the principle is this: When water is heated in an air-tight vessel, pressure is created by the steam which forces the temperature beyond the ordinary boiling level of 212 F. For instance, with only 10 or 15 pounds pressure, temperatures of from 240 to 250 F. may be attained. High temperatures shorten the time required to cook food.

One cooker that looks more like a de luxe saucepan than a pressure cooker is made of a stain-resistant, two-tone aluminum alloy. The cover has a sealing band that locks onto the cooker when the cover handle is placed directly over the cooker handle. In the center of the cover is a steam vent. The pressure indicator is located in the weight which is placed over the vent as soon as a steady flow of steam starts to emerge. For this reason one must be careful not to drop the weight as this will throw the indicator out of adjustment. As soon as the indicator has moved toward the center notch marked "cook" (this requires about 1 minute), cooking time starts. All foods are cooked only as long as indicated on the time tables provided with the cooker. When the cooking time has elapsed, the cooker is removed from the fire and allowed to stand until the indicator has returned to the word "off" shown on the weight. (This requires 2 or 3 minutes.) After the pointer has returned to "off," the weight is removed from the vent, and the cover taken off the cooker. (Never take the cover off without first removing the weight indicator, and never remove the weight indicator until the pointer returns to "off.")

Another new-style pressure cooker, is manufactured in sizes that range from 1 to 4 quarts, and is made of either stainless-steel or stain

resistant aluminum alloy. The flexible, stainless steel cover has its own handle which locks with the handle of the pot so that it cannot be removed until the pressure returns to normal.

Attached to the vent in the center, is the pressure indicator which is not removable, and is therefore not likely to be thrown out of adjustment. Cooking time begins as soon as the indicator has moved to the center notch and the vent weight begins to move back and forth rapidly. This means that about 15 pounds of pressure has been generated. At this point the flame is reduced to that point which will adequately maintain steam pressure. After the cooking time has elapsed, the cooker is removed from the stove and the pressure allowed to drop until the pointer on the indicator returns to the extreme left side of gauge. Now the vent weight may be removed and the hook disengaged from under the lower handle, thus releasing the cover.

To cook carrots in this cooker, place the peeled whole or sliced carrots on a trivet that fits in the bottom of the pot, add a quarter cup of water (barely enough to cover the bottom), put on the cover and place the cooker over the flame. When the steam begins to come out of the vent, it is covered with the vent weight. This weight lifts automatically to permit excess steam to escape. As a result almost constant pressure and temperature are maintained. In one minute from the time the pointer reaches the V notch, the carrots are done. The cooker is removed from the stove, allowed to cool off until the pointer has swung back to its no-pressure position (this takes about 5 minutes), the cover is unfastened and the carrots are ready to serve. It is impossible to remove the cover until all the pressure is gone which eliminates any danger of scalding by steam.

Green lima beans, peas, brussel sprouts, broccoli and spinach require only a minute, but potatoes, beets and turnips take about 5 minutes. The time required to cook meat depends on the cut of meat. Meat prepared in one of the new style cookers is tastier if it is browned in a small amount of fat in the bottom of the cooker before the cover is put in place.

Any one familiar with the appearance of fresh vegetables that were prepared in old-style pressure cooker will be surprised to learn that green vegetables cooked in new-style cookers retain most of their fresh natural color and flavor. A possible explanation for this retention is speed—only 7 minutes elapses between the time the vegetable is put in the cooker and the time it is ready to serve. But whatever the reason, green peas, broccoli, asparagus, cabbage, brussel sprouts and spinach come out of the new-style pressure cooker with their bright green color unimpaired.

What about the nutritive value of vegetables thus cooked?

The effect of cooking on raw vegetables is a question that is of practical importance to the modern housewife, because there are so few vegetables that can be eaten in the uncooked state. Such vegetables as cabbage, lettuce, celery, radishes, tomatoes and onions are usually preferred uncooked, and when served as a salad or relish are welcome additions to any lunch or dinner. But not even a dietitian could be expected to bite into an uncooked bunch of broccoli.

From a nutritive point of view, vegetables are chiefly valuable for their vitamin C, vitamin B_1, carotene (pro-vitamin A) and mineral content. And for this reason they should be cooked in a manner that will preserve these nutrients. Vitamin C, and to a lesser extent vitamin B_1 and carotene are soluble in water. It has been shown that when vegetables are cooked in large quantities of water, half of the vitamin C and a fourth of the vitamin B_1 are transferred from the vegetable to the cooking water. As a rule, all of the vitamins which pass into the cooking water are lost to the consumer because it is usually thrown away. The new pressure cookers require only 4 tablespoons of water, just enough water to be converted into sufficient steam to cook the vegetables, and thus the tremendous loss of vitamins in the cooking water is avoided. The only vitamin loss sustained in cooking vegetables in these new cookers is the relatively small amount of vitamins C and B_1 that is destroyed by heat.

There is also a transfer of mineral elements from the vegetable to the cooking water. Some investigators have found that as much as 20 per cent of the iron in vegetables is transferred to the cooking water, and unless the cooking water is utilized this iron is lost to the consumer. Some of the calcium, phosphorus and copper are also transferred to the cooking water.

Authorities generally agree that cooking vegetables in large quantities of water in uncovered utensils, with the subsequent discarding of the cooking water, results in large losses of both vitamins and minerals. Obviously, then, an easy way to avoid vitamin and mineral losses is to cook vegetables in the new-style pressure cookers.

Why Hay Fever?

The individual who is not allergic to any substance is both rare and fortunate.* LEON FELDERMAN *dispels a few misconceptions of the so-called hayfever

ONE JULY day, in the year of 1872, three physicians made their way to Bethlehem, N. H. To the townfolk the arrival of these newcomers made no particular impression. However, subsequent events proved that they were, in fact, three wise men. They had suffered from head colds at a period of year when cold epidemics were uncommon. But when the visitors came in contact with the New Hampshire air, all symptoms of their troublesome "catarrh" disappeared. But the sudden change in their health status came without surprise. To be sure, the doctors had counted on this improvement and to have their theory tested had arranged to have shipped a package of weeds which purported to be the real suspect of their malady. When the package did arrive, these men were as happy as a child with a new toy. Two of the men in the party smelled deeply of the contents, and what happened was described at a medical meeting.

Dr. Morril Wyman, a surgeon and clinician of note in those days, conceived this experiment, using his son as participant. His brother, Jeffrey Wyman, by previous understanding, acted only as a control in this interesting test. As anticipated, he remained symptomless, which strengthened the theory that the weeds were responsible for the oncoming of the sneezing attack. Dr. Wyman and his associates were satisfied that they had established conclusively the cause and effect of hay fever. When Dr. Wyman related his experience with the tested weed to his medical associates, they simply scoffed at the idea. Little did they realize then that the conclusions advanced by these self-appointed experimentalists would be regarded as a progressive contribution to allergy even to this day.

Dr. Wyman, true to his scientific endeavors, pursued his experiment one step further. He sent a portion of that plant to a fellow sufferer, who resided in the White Mountain range, with instructions to sniff at the weed. The obedient patient reported that he was seized with a fierce attack of symptoms, watery eyes and uncontrollable sneezing which shook his entire frame, leaving him well nigh exhausted, and that the proof of this weed lies in the direction of the smell organ. The significant fact was that they were able to reproduce the "catarrhal" symptoms at will, which made them feel elated, in spite of the fact that their new concept was received by their associates with heavy skepticism.

Although Dr. Wyman espoused the causative role, he overlooked the heredity slant, of which his own family gave undeniable proof. It remained, however, for two English physicians, Bostock and Elliotson, to confirm

Free Again

"Tomorrow, he will go to school," she thought;
And planned a little, as she watched him play,
His face engrossed, blissfully smudged and hot.
"It is so long since I have had a day
Unbroken by his tireless energy—
Oh, I shall catch up on my reading, now,
Play bridge, renew old friendships, give a tea,
And crowd my hours with all they will allow."

Next morning, when she found herself alone,
Her tasks flowed smoothly; and when she had dried
The last clean dish, her hand reached for the 'phone;
But somehow, all her eagerness had died,
Engulfed in this first loneliness she knew—
The tidy room seemed strangely still and bare
Where, only yesterday, her son had knelt
Among his toys—with sunshine on his hair.

By PAULINE SOROKA CHADWELL

the findings of Dr. Wyman, each of these Englishmen claiming priority for the discovery of the culprit causing hay fever.

For thousands of years we have known of hay fever. It is no stranger in our midst. The Talmudic writings mention it. The Greeks had an unkind word for it. The term "hay fever" is a misnomer. Then what is hay fever? The cognomen of hay fever was created for want of a word which would better convey its full significance. Like all poorly defined diseases, it has acquired a long string of names, all of which fail to impart the precise meaning, insofar as the causative factor is concerned. Rose fever, rose cold, perennial hay fever, allergic coryza, hyperesthetic rhinitis, pollen coryza, pollen catarrh, pollinosis, hay asthma, summer catarrh and Heufeber are just a few synonyms applied to this troublesome disorder. The disease is rich in names, but all are poor in implication. It would appear superficially that the medical men in the late nineteenth century were vying with one another to christen the ailment with a more suitable epithet but all were overlooking the descriptive features.

A patient who is suffering from so-called hay fever betrays the condition by his outward facial expression. If hay fever were a reportable disease—fortunately it is not contagious—the knowledge of its presence could not be withheld from any one for long. It is not caused by hay, nor is it accompanied by an elevation of body heat. On the contrary, some cases pursue a subnormal temperature. This malady is characterized by sniffles, sneezing and superstition.

In the United States at least 3 per cent of the population is affected by allergy of the upper air passages, but general allergic disorders may affect as many as 60 to 70 per cent. One only has to read on to be convinced that every vital organ in the human economy is affected directly or indirectly by the ailment.

Hay fever is unheard of among the thick skinned savages, and no sufferer of this malady will begrudge the otherwise benighted heathen this healthy distinction. The disease more frequently attacks tycoons and office workers, rather than longshoremen, piano movers or common laborers. It has a selective affinity for the intelligentsia rather than the brawn worker. The imbecile and the moron often claim exemption from this affliction on the ground of natural immunity.

Not infrequently, when the patient is applying for treatment, he has only a vague idea of what the disease is; and if his condition does not improve immediately, he loses heart and discontinues treatment. Or some well meaning neighbor may bring to his attention a nostrum or proprietary remedy, which he will be anxious to purchase. It may so happen that at the time the patient takes this experimental remedy a rainy spell precipitates the pollen to the ground. The patient then may receive a temporary respite from his attacks, and he may ascribe these temporary benefits to the newly acquired remedy. We know that faith is a marvelous therapeutic agent.

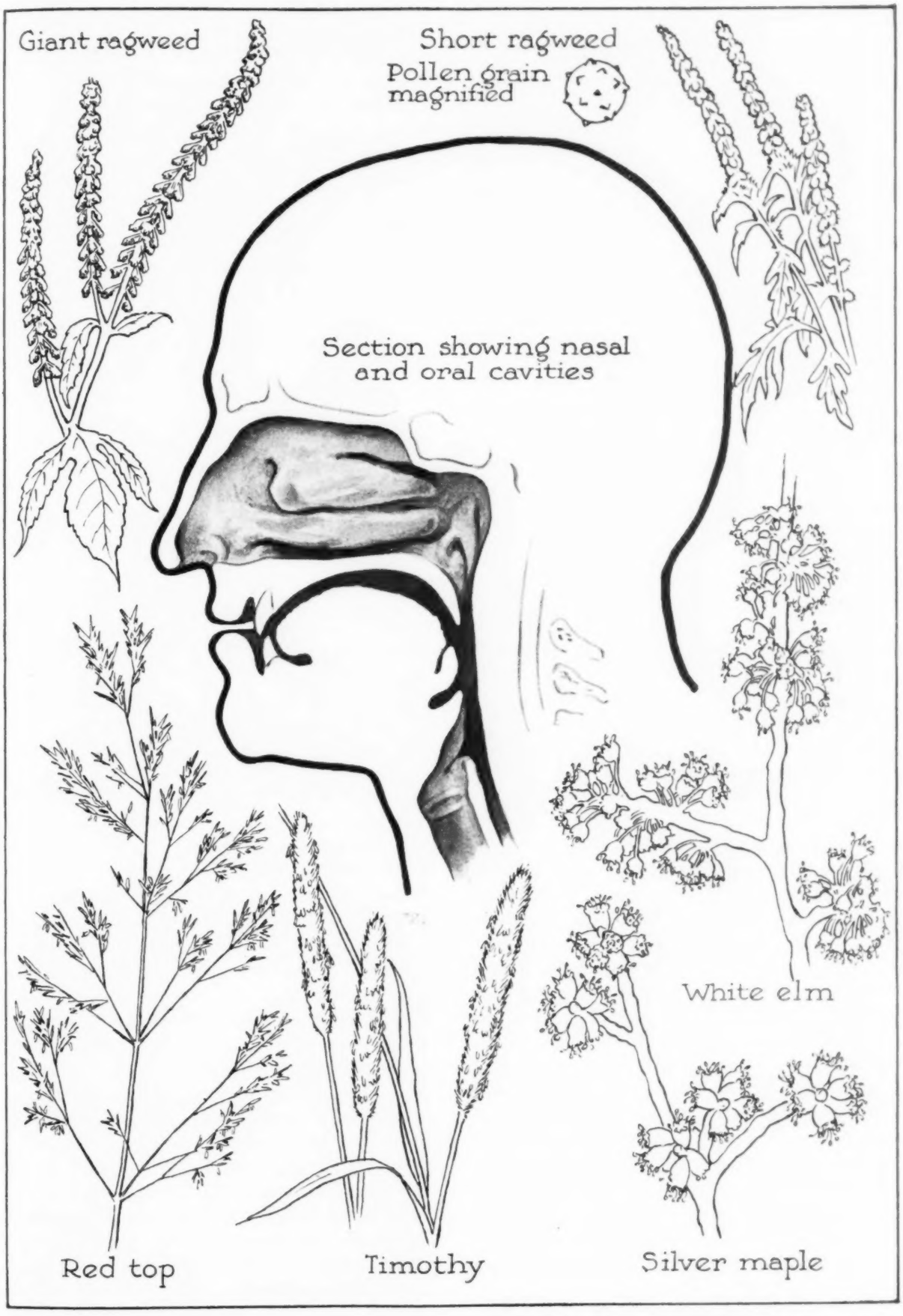
To some of us the months of July, August and September may be the season for outdoor sports, such as fishing, golfing or tennis; but to the allergic it means sniffles, sneezes and days of untold suffering. The mere mention of the pollen days in the summer to an allergic is sufficient to make him uncomfortable.

Aside from being considered by some of us a physical handicap, allergic rhinitis, or hay fever, as modern writers refer to it, plays a devastating role in the earnings of the 5 million victims. Those who suffer from this malady annually lose on the average of two to three weeks' time from work, which when multiplied by 5 million is quite an economic loss. In addition, if the patient is unfortunate, and complications of the ear, nose and throat set in, further suffering and sacrifices may follow.

Persons gifted with titian hair by inheritance show greater strain of susceptibility. Only a few years ago in a seashore beauty contest one of the girls who made a strong bid for national honors was compelled to withdraw from the contest, for the inroad of pollen played havoc with her physical features. So severe are these attacks that the sequence of sinus and mastoid troubles, ruptured eardrums and dislocated jaws are but a few of the occurrences which follow in their wake.

Railroad officials know of this discomfort and wisely uproot the weeds lining their road beds to avoid pollen dissemination; to make travelling even more pleasant they have air conditioned the train coaches.

Today any one can tell a sufferer of hay fever at once. The patient's face dramatically reveals his condition. The margins of the eyelids are congested, and the eyeballs are completely bloodshot, giving the impression that the patient has just emerged from a long swim in a pool. The eyes are watery and sensitive to bright light. In the morning when the patient awakes, he may find his eyes "glued" together with a fine mucilaginous film, which is easily wiped off. The eyes are beset with an interminable itching, and rubbing the parts intensifies the existing redness.



Persons who are allergic only to pollens suffer during the pollination periods of trees (early spring), grasses (mid-summer) and weeds (fall).

The outer and inner canthus [corners of the eye] appear to the onlooker to be visibly infected. If the patient wears eyeglasses, the lenses get cloudy, and he is compelled to clean them often. The tear ducts become overactive. This causes the secretions to course down the cheeks and to give the subject a forlorn, lugubrious face, as though he has just had a crying spell. The defeated expression is accentuated by the fact that the patient holds a handkerchief in his hand to wipe away the almost incessant flow of tears.

The picture just given may precede or follow a sneezing attack. The latter condition is uncontrollable and explosive and comes without warning. The patient may be walking or may be engaged in conversation when he suddenly halts, opens his mouth slightly and with body completely relaxed and eyelids partially closed awaits with handkerchief in hand the paroxysm of sneezing. The seizure may last anywhere from a few minutes to a few hours. It seems that each succeeding sneeze is bigger and louder than the preceding one. When the attack is over, the patient appears fatigued and is often exhausted physically and emotionally. Not infrequently he will complain of a peculiar tingling of the teeth.

Patients have been awakened during a profound sleep with an unrestrained paroxysm of sneezing. There have been cases where loss of bladder or rectal sphincter control occurs. The embarrassment and mental anguish which is the lot of these sufferers during the height of the hay fever season eludes description. Associated with these symptoms, they will complain of a blocking of the nose, either on one or both sides. Patients are apologetic and refer to it by the name of "summer catarrh," a term that has no place in the modern lexicon of medicine. Nasal discharge is profuse and watery in character, either white or yellowish in color, and the sufferer anticipates his wants with an extra supply of handkerchiefs. The discharge is acrid and irritating, and at the edges of the nose, including the tip, the irritation associated with marked redness is noticeable. This irritation coupled with the heavy sneezing may result in nose bleeds; however, these are usually not serious.

The victim tries to ease the strange feeling at the roof of his mouth, by reaching with his tongue to moisten and soothe the membrane of the hard palate. The ticklish sense of irritation may extend farther back of the soft palate region, and the accumulation of mucus already causing coughing spells may precede, follow or simultaneously join the sneezing attacks. The cough may be raucous, croupy or brasslike in character, usually of short duration. The expulsion of mucus from the throat may lessen the entire paroxysm, or if unimproved, he may enter into a stage of severe coughing which may last for many weeks and assume the proportion of a fully developed bronchitis. When these attacks are neglected over a period of a decade, asthma, a terminal condition of hay fever, may complicate the picture. Not infrequently hay fever patients have associated itching or earaches, and should the infection spread through the Eustachian tube, lateral mastoid disease becomes inevitable. However, when the secretion alights on the vocal cords, laryngitis results with a complete loss of the voice. I have known singers who were forced to cancel important engagements because they were too busy to consult their physician for preseasonal treatment of allergy of the upper passages.

Modern medicine recognizes four allergic groups of people:

1. The inhalant group: A person not susceptible to hay fever will react only when the respiratory organs inhale a great amount of pollen, because he is naturally immune to pollen inhalation. But the susceptible patient, who has shock or "weak" organs within the nose or lung tissue, will sneeze, cough and manifest signs of pollen irritability.

2. The ingestant or the gourmand group: In this class we have the epicurean type who will eat himself sick. He will partake of the forbidden fare, though he knows that certain foods are harmful to his health. The foods to which one may be allergic are many and varied. What happens when a patient partakes of a food to which he is allergic? In the brief space of a few hours he complains of intolerable itching spreading through the body. This is followed by development of pinkish wheals, which may be from the size of a pinhead to a half dollar. Some of them are barely visible, while others may be seen at a distance. These wheals are aggravated, particularly by scratching. This merely means that the normal metabolism is somewhat disturbed. There is a "spilling over" of these reagin bodies into the circulation, causing a clash with the red and white corpuscles, and serum pours out just under the skin surface and causes the pinkish blotches.

3. The contactant group: When these susceptibles come in contact with wool or silk or certain cosmetics, they may break out in a rash composed of watery or serum-like eruptions. This is accom- *(Continued on page 846)*

Acme

A perimeter is used to test field of vision.

Safeguarding Sight

By CONRAD BERENS

WILL YOU be able to see as keenly on September 1, 1941? "Of course," you say, "Why not?" But perhaps you, too, are one of the many persons that will develop impaired vision within the next year. New operative technics and methods of diagnosing and treating eye diseases have reduced blindness considerably but they cannot completely outweight both ignorance and carelessness.

Free clinics and widespread campaigns for public information regarding syphilis and gonorrhea have materially reduced blindness resulting from these diseases. Records, compiled at institutions for the blind, show that blindness occurring at birth and generally due to venereal diseases has been decreased almost 20 per cent in the last 32 years. Such records show that this type of blindness may be prevented. They also indicate that, through proper coordination of physician and public, syphilis and gonorrhea may soon become as infrequent as smallpox.

In American schools for the blind, over half of the blindness is attributable to hereditary and congenital diseases. Physicians and pre-

natal clinics have done much to prevent ophthalmia neonatorum, an eye disease originating during birth and caused by gonorrhea. But often ophthalmia neonatorum does not occur until several years after birth when medication may be too late to save sight. For this reason many states have enacted laws requiring the attending physician to administer silver nitrate eye baths to all newly born infants. For while the symptoms of syphilis and gonorrhea may disappear during treatment, the disease producing bacteria may remain latent within the body for many years. In the advanced stages, venereal diseases often cause the optic nerve to deteriorate entirely.

Sulfanilamide, a drug used to combat streptococcic infections, is now widely used in the treatment of trachoma, an infectious disease of the eyelid membranes. But other drugs, used by women to lose weight, have occasionally caused a complete loss of sight. Certain eyelash dyes have also caused scar tissue to form within the eye and impair sight.

Many general diseases, such as diabetes, nephritis, arteriosclerosis, and toxemia during pregnancy may seriously affect vision. Eye inflammations may often be warning symptoms for infections localized in other parts of the body, such as teeth or sinuses. Inheritable diseases, brain tumors, tuberculosis, as well as other less common disorders may be detected by eye examination long before other, more obvious, symptoms are present.

Intense heat, mechanical injury or disease may produce eye cataracts, a condition in which the lens becomes opaque, preventing light from entering the eye. Many claims have been made for vitamins, but even they cannot be expected to dissolve the cataract once it has formed. General good health, however, has been found to delay the growth and formation of cataracts, and vitamins probably play an important role in preventive measures. An early diagnosis and subsequent operation can remove cataracts, but the patient usually has to wear specially constructed glasses.

Increased pressure within the eyeball, or glaucoma, usually results in total blindness unless an operation is performed during the early stages. This disease may often be severely painful, and while it is sometimes caused by infections elsewhere in the body, it may also be caused by excessive worry and anxiety.

Partial blindness may also be caused by excessive use of tobacco and alcohol. Among the first symptoms of tobacco poisoning is the inability to distinguish small red or green objects. Again, prevention through moderate use is far superior to any cure yet devised. However, recent experimental work with vitamins suggests that a deficiency of vitamin B may be a co-factor in producing tobacco and alcohol blindness.

Mechanical injury to the optic system is by no means a minor cause of blindness. Industry has taken many precautions to guard workers against eye injury, but the home still remains a prodigious source for this kind of blindness. Air rifles, sling shots and other toys as well as common household articles are responsible for many sightless individuals.

Improper illumination also may impair vision. But scientific research has made remarkable gains in determining how much light the eye needs. The most ideal conditions have been obtained by a combination of direct and indirect lighting to avoid glare. The result has been increased efficiency and performance. Proper color factors as well as light corrected window panes have been important in reducing occupational eyestrain.

Proper home illumination is essential to eye comfort. In many cases, eye strain causes children to be maladjusted both academically and socially. Reading difficulties and defective eye muscles may also be a contributing factor in the backward child, but periodic examinations and correction can prevent these conditions from seriously affecting sight in later life. Sight saving classes, in which larger type and more illumination are used, are extremely beneficial for educating the child whose vision is drastically impaired.

Muscular defects which cause the eyes to be "crossed" require special attention since psychological maladjustments also may be incurred. If improper eye alignment is not diagnosed and corrected immediately, one set of eye muscles will deteriorate and cease to function unless exercised. Favorable results have been obtained from exercises, medical and surgical technics and the use of glasses.

Glasses, however, are not effective in all cases of eye disorders. They may improve vision and relieve headaches and strain, but they cannot possibly cure diseased tissues, change optic structures or strengthen the eyes.

An eminent eye physician has said that more blindness is caused by ignorance, carelessness and indifference than can be cured by the most consummate surgical and medical skills. Will your sight be lessened needlessly?

He acts like Lincoln but frankly we're disappointed

"Disappointed? Rowena, I should think you would be disappointed! . . . with the dear child studying by that flickering fire"

● Think what a strain that puts on young eyes! Guard your child's eyesight. Have his eyes examined regularly by an eyesight specialist. Then see that he has plenty of good, glareless light . . . especially when he reads or studies. The right size G-E MAZDA lamps in the right places will help protect his eyesight . . . probably improve his grades . . . and may even help him be a "dark horse" some day.

See how little they cost! 75 and 100-watt **15¢** 40, 50, 60-watt **13¢** 7½, 15, 25-watt **10¢**

Made to stay brighter longer

G-E MAZDA LAMPS
GENERAL ELECTRIC

Should you be on the lookout for Diabetes?

SOME FOLKS should be especially on their guard against diabetes, as a tendency to this disease seems to run in certain families.

▶ Furthermore, the people it strikes are usually overweight and between the ages of 40 and 60. Diabetes occurs most frequently among people who lead inactive lives, and is more common among women than among men.

So, if you have reason to be on the alert for diabetes, it is particularly important for you to have complete physical examinations at regular intervals.

▶ Such examinations may reassure you that you do not have the disease. If the possibility of diabetes is indicated, then a study of sugar in the blood can help the doctor detect the condition early—frequently before other symptoms appear. Thus, you can be guided to prompt control of the disease with diet and insulin before it has made much progress.

The most common signs of diabetes, frequently not recognized by those who have the disease in early stages, are: Excessive thirst; excessive appetite; loss of weight; constant weariness and unaccountable irritability; and, in older people, boils and carbuncles.

▶ Naturally, definite symptoms should call for immediate medical attention.

It is encouraging to realize that a healthy, active life is not only possible but probable for most diabetics who promptly discover their ailment and follow competent medical guidance. They easily become adjusted to the four vital conditions necessary for diabetes control: 1. Proper diet, 2. Insulin as prescribed, 3. Exercise, 4. Cleanliness.

For further helpful information concerning this disease and its control, send for the Metropolitan's free booklet, "Diabetes." Write today to Dept. 940-Z.

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Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

Frederick H. Ecker,
CHAIRMAN OF THE BOARD

Leroy A. Lincoln,
PRESIDENT

1 MADISON AVENUE, NEW YORK, N. Y.

Plan to visit the Metropolitan's exhibits at the New York World's Fair and at the Golden Gate International Exposition in San Francisco.

FALSE IDEAS ABOUT FALSE TEETH

(Continued from page 765)

teeth. A brush, essential in cleaning both natural and artificial teeth, should be picked for its ability to clean all surfaces of the denture. The Council on Dental Therapeutics has said the action of the brush may be assisted by various abrasives or materials having a mild chemical action. For this purpose bicarbonate of soda, finely ground chalk, pumice or a dilute solution of trisodium phosphate may be used. Denture immersion in liquids containing sodium hypochlorite (Labarraque's solution) followed by brushing, may also be useful.

The problem of full dentures, like any other problem, is strictly an individual one. The maker of an artificial leg, for instance, does not guarantee that the wearer will become a track man; neither can a dentist guarantee that an artificial denture wearer can chew taffy candy. But by practice a man with an artificial leg can walk so that a casual observer cannot detect the difference. Likewise the dental patient can so adapt himself to the intricacies of his false teeth, that they will pass unnoticed.

False teeth instead of detracting from appearance may, in many instances, materially enhance it, particularly in those cases of large, unattractive, discolored, protruding, irregularly spaced teeth. Artificial teeth function far more efficiently than a mouth with a complement of roots, partially decayed and nonarticulating teeth. Plates are now so skilfully constructed that they possess almost perfect retention and at the same time appear perfectly natural. Edentulous persons can now face the future courageously, without fear or misgivings.

SULFAPYRADINE

When sulfanilamide and its derivatives are used in the treatment of trachoma (an infectious disease of the eyelids), ulcers and granulations are frequently alleviated and the complaints of oversensitivity to light, watering of the eyes, painful aching of the eyes, the feeling of having something in the eyes, blurred vision, burning, itching and the discharge of pus may be eliminated.

The Newer Concepts of Meat in Nutrition

The Important Role of

Meat in the Diet

FROM the beginning of time, meat has been one of the principal articles of the human diet. Primitive man chose it instinctively for the satisfaction it gave him. Today the wisdom of that selection is readily understood, for science has proved that the human body is especially adapted to the consumption and digestion of foods from animal sources. Recent advances in the knowledge of nutrition have established the importance of eating meat.

The protein of meat contains all the known essential amino acids, those important "building blocks" from which the body tissues are constructed. It serves man in a double capacity. It fills an important need in building his body during his early years (satisfying the growth requirements) and constantly throughout life it contributes to the repair of the ever recurring wear and tear of tissue.

Meat, as a part of the daily diet, supplies a high proportion of the vitamin needs. Thiamine (B_1), riboflavin (G) and the pellagra-preventing vitamin — the most essential vitamins of the B group — are supplied in amounts important for normal nutrition. In the modern diet meat contributes a high percentage of the daily requirement for these vitamins, in which many diets, even in these days of enlightenment, are likely to be deficient. Meat also provides minerals vitally necessary to the body, notably phosphorus and iron, both of which must be supplied continuously, the one for bone and teeth, the other for the formation of hemoglobin (the building of good red blood).

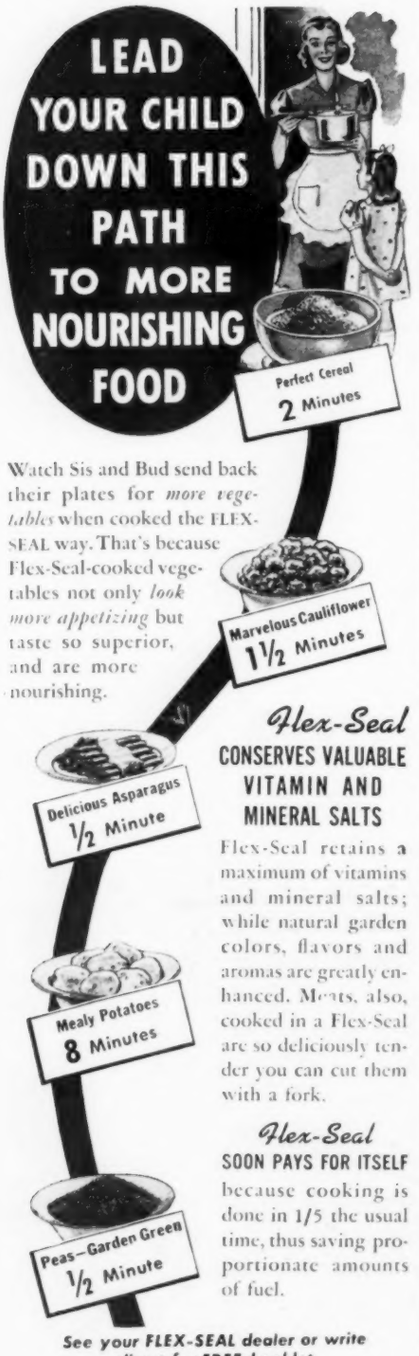
With the better understanding of meat and its contribution to nutritional requirements has come the realization that meat, with its rich protein content, must be regarded as an important factor in the daily diet, not only in health but also in disease, especially in such prolonged and wasting diseases as tuberculosis, Bright's disease, chronic rheumatism, high blood pressure, hardening of the arteries, etc.

Meat looks appetizing and tastes good. The mere sight of well cooked meat serves to stimulate the flow of the digestive juices of the mouth and stomach, thus aiding digestion. Furthermore, meat maintains a feeling of comfort and satisfaction in the hours between meals.

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

CHICAGO


LEAD YOUR CHILD DOWN THIS PATH TO MORE NOURISHING FOOD
Perfect Cereal 2 Minutes
Watch Sis and Bud send back their plates for more vegetables when cooked the FLEX-SEAL way. That's because Flex-Seal-cooked vegetables not only look more appetizing but taste so superior, and are more nourishing.
Marvelous Cauliflower 1½ Minutes
Flex-Seal
CONSERVES VALUABLE VITAMIN AND MINERAL SALTS
Flex-Seal retains a maximum of vitamins and mineral salts; while natural garden colors, flavors and aromas are greatly enhanced. Meats, also, cooked in a Flex-Seal are so deliciously tender you can cut them with a fork.
Delicious Asparagus ½ Minute
Mealy Potatoes 8 Minutes
Flex-Seal
SOON PAYS FOR ITSELF
because cooking is done in 1/5 the usual time, thus saving proportionate amounts of fuel.
Peas—Garden Green ½ Minute
See your FLEX-SEAL dealer or write direct for FREE booklet
Flex-Seal
COOKER
ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION
VISCHER PRODUCTS COMPANY
314 ORLEANS STREET • CHICAGO, ILLINOIS

SULFA-MIRACLES

(Continued from page 778)

other therapeutic use of a "sulfa" compound was strikingly demonstrated.

Exactly how these drugs accomplish their "sulfa-miracles" within the human body is still something of a mystery. Says Dr. Long: "Little is settled as yet except the question of their effectiveness." And Dr. E. Kennerly Marshall Jr., adds: "No satisfactory explanation of the mechanism of action has been found."

But surprising facts have come to light in the laboratory. For some reason the drugs are incapable of performing wonders when put entirely on their own: they seem to require the cooperation of the living body to combat the germs. For instance, into a test tube seething with pneumococci, investigators have poured an ample dose of sulfapyridine. Nothing happened; the germs continued to live and multiply. The same dose fed to a patient suffering from pneumococcal pneumonia somehow checked the disease.

This has given rise to one theory, held by a good many doctors, that the sulfonamides are not bactericidal, but *bacteriostatic:* they don't kill the germs, but merely slow up their action, and give the body's natural germ-fighting cells a chance to finish the job. As one doctor remarks, "The drugs simply hold the villain's arms, while the body makes short shrift of him."

As might be expected, such wonder-drugs can be taken with safety only under the supervision of the doctor, and even then they bear the caution: "Handle with care." They are not without their "toxic effects." In the course of effecting their remarkable cures, they sometimes cause the patient some discomfort or distress, such as nausea, dizziness, fever or skin rash.

Dr. Long told the scientific assembly of the American Medical Association last June that "physicians have been 'oversold' on the dangers connected with the use of sulfanilamide and its derivatives." He presented a careful analysis of the reactions noted in over 1,500 patients who had been successfully treated at Johns Hopkins Hospital with sulfanilamide, sulfapyridine, and sulfathiazole.

"We felt that no physician should hesitate to administer these drugs in therapeutically adequate amounts, providing that he can see his patient at least once a day," Dr. Long stated. He added that in the year 1939, *300 tons* of sulfanilamide and its allied compounds were used.

The Nobel prize for physiology and medicine was awarded to Professor Gerhard Domagk in November, 1939, in recognition of his discovery of prontosil, the brick-red drug which opened the way for all present-day sulfanilamide therapy. As a citizen of the Reich, he was unable to accept the award. Almost at the same time came the announcement that sulfanilamide compounds would be administered immediately to all British soldiers wounded in battle to cut down the death rate from infected wounds. Thus the wonder-drugs had cut across the artificial barriers between nations, to work their "sulfa-miracles" in war as in peace.

SELF SELECTION OF DIETS

Neither personal food preference, hunger nor appetite is to be trusted implicitly in the self selection of diets, Horry M. Jones, Chicago, declares in *The Journal* of the American Medical Association. His paper contains the results of 233 analyses of the self-selected diets of 154 normal, healthy subjects of various ages, races and occupations, and 117 analyses of the diets of forty toxic (poisonous) goiter patients, which showed that each individual is guided by personal food preference to select a diet which he maintains at a relatively constant protein percentage and at a level characteristic of himself.

This leads the author to believe that the discovery of such a dietary imbalance may have diagnostic possibilities in early toxic goiter cases that have not advanced sufficiently to provide symptoms.

Wheat Germ Products

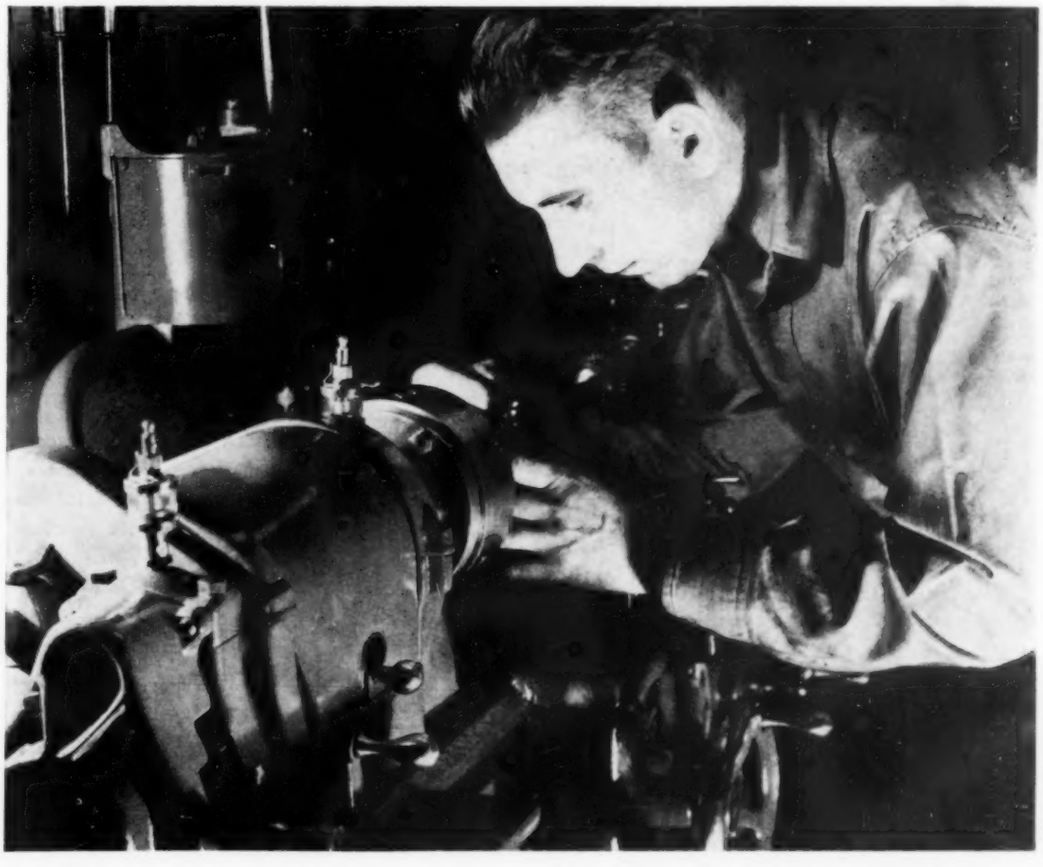
WHEAT germ, or embryo, is that portion of a wheat kernel from which develop the new stem and roots of the sprouting seed. It amounts to only about 2 per cent of the grain but is of nutritional importance because it contains a much higher concentration of vitamin B_1 (also called thiamin) than the endosperm, that portion of the wheat kernel from which white flour is made.

Wheat germ is obtained during the process of milling white flour. When the grain is crushed, the germ is loosened, and because of its size it gets into the coarse middlings. When these so-called germ middlings are acted on by the smooth rollers, the germ is flattened because it is tougher than the endosperm, and in this condition it may be bolted from the flour. This crude wheat germ, which contains some endosperm and considerable bran, formerly was used only in animal feeding because of its poor keeping quality. In recent years, however, the germ is separated more completely from other material and is so treated that spoilage is retarded or prevented. The so-called purified wheat germ is now available in a pleasing, palatable form for human consumption.

The poor keeping quality of crude wheat germ is usually attributed to the development of rancidity in the oils, which often amount to about 10 per cent of the product. When the grain is crushed, the germ is bruised, and certain enzymes in the germ become activated. Heating probably inactivates these enzymes. The toasting of wheat germ at 120 to 130 C. leads to the production of a light brown product with enhanced keeping qualities. Other methods of treating wheat germ have been devised. One accepted product with improved keeping qualities is prepared by extracting most of the fat from the wheat germ with an organic solvent. The solvent and dissolved oil are removed, and the defatted germ is heated to volatilize all traces of them. The resulting product is packed in cans.

Although the keeping quality of the commercially available wheat germ products is good, it is advisable to store the material in a refrigerator.

The average percentage composition of wheat germ may be expected to be as follows: Moisture, 9 per cent; protein, 27 per cent; fat, 11 per cent; carbohydrate, 48 per cent, and ash, 5 per cent. The minerals found in the ash of wheat germ are chiefly phosphorus, magnesium, calcium and iron. Wheat germ contains vitamin B_1 and other components of the vitamin B com-



Many mills have precision instruments for making delicate machinery used to obtain the wheat germ.

Presto-MOM, NOW I LIKE VEGETABLES
NATIONAL'S NEW
PRESTO COOKER
MAKES VITAL FOODS TEMPTING TO YOUNG APPETITES—
-at almost unbelievable speeds

RETAINS GARDEN-FRESH FLAVORS AND COLORS OF VEGETABLES — SAVES VITAMINS AND MINERAL SALTS

Children, and adults too, love their vegetables cooked in the new lightning fast PRESTO. You'll enjoy preparing them the easy simple PRESTO way that just takes split minutes. Instead of pouring off the precious vitamins and mineral salts, your children will thrive on their health-building goodness. A thousand times a year you will save time, money, fuel and flavors with your PRESTO preparing cereals, soups, stews—inexpensive meats are made tender in minutes instead of hours. See the new PRESTO at your leading housewares department, or write us direct for free folders.

SPINACH, PEAS, ASPARAGUS *1 Minute*

BROCCOLI, CABBAGE, CARROTS *2 Minutes*

ROASTS *8 Minutes* PER POUND

2 QT. SIZE $9.50 3 QT. SIZE $10.50

4 QT. SIZE $11.50

Slightly higher west of Rockies

NATIONAL Presto "MAKES COOKING A SNAP!" COOKER

National Pressure Cooker Co., Dept. 21, Eau Claire, Wisconsin

plex (riboflavin, nicotinic acid or its amide and vitamin B_6). Members of the vitamin B complex tend to occur together in nature just as vitamin A and vitamin D do in fish liver oils.

Commercial preparations of wheat germ may be expected to contain from 250 to 425 international units of vitamin B_1 per ounce and from 80 to 110 Sherman-Bourquin units of vitamin G per ounce. Wheat germ also contains a small amount of the pellagra-preventive factor.

The outstanding contribution to the diet made by wheat germ products is vitamin B_1. The daily requirement for vitamin B_1 is 300 international units. Although vitamin B_1 is present in nearly all plant and animal foods, the amounts are small, less than 10 international units of vitamin B_1 per ounce. For this reason the amount of vitamin B_1 in the diet of most persons is apt to be below the optimum for good health. Wheat germ, however, is so rich in vitamin B_1 that a one ounce portion would supply the entire adult requirement, or about 300 international units.

The Council on Foods recognizes that in the amount of wheat germ ordinarily consumed (one-half to one ounce a day) there is sufficient vitamin B_1, vitamin G and phosphorus to warrant recognizing the following advertising claims:

1. Wheat germ is a rich source of vitamin B_1.

2. Wheat germ is a rich source of phosphorus.

3. Wheat germ contains some vitamin G (riboflavin).

Wheat germ is not recognized as a good source of vitamin G unless the manufacturer has provided evidence that his particular product furnishes at least 60 Sherman-Bourquin units of vitamin G (one-tenth of the daily requirement for this factor) in a 200 calory portion (about 1⅘ oz.).

Wheat germ preparations, unless the fat has been removed, also contain some vitamin E. Since there are at present no adequate scientific data definitely establishing the role of vitamin E in human nutrition, no claim for vitamin E is recognized by the Council. Vitamin E is present in many common foods, such as lettuce, watercress, milk and milk products. The necessary amount, as far as is known, may be acquired from any good diet. For this reason, references to vitamin E in advertising imply a need for special sources of this vitamin that is not substantiated by present knowledge.

Accepted products of refined wheat germ, because of their low crude fiber content, may be given to children and to persons who have sensitive digestive tracts. In addition to contributing unique food values, wheat germ products are appetizing additions to salads, vegetable dishes, biscuits, breads, cakes, meats, desserts and other dishes of the American table.

WHEAT GERM PRODUCTS

ACCEPTED — American Medical Assn. Council on Foods

The following brands of wheat germ have been accepted by the Council on Foods of the American Medical Association and are described in the book "Accepted Foods and Their Nutritional Significance" published by the American Medical Association.

Anderson's Wheat Germ, flaked wheat germ not heat treated, containing 85 per cent germ, 10 per cent bran and 5 per cent endosperm.

Vitab, ground and bolted wheat germ and rice polishings, mildly treated with heat.

VioBin, partially defatted and dehydrated wheat germ, treated to volatilize the traces of organic fat solvents.

Embo, wheat germ practically free from bran and endosperm, mildly treated with heat.

Squibb Malted Wheat Germ Extract, an extract of malted wheat germ and U. S. P. malt, essentially maltose, dextrins and "starch intermediate products," cooked, dried and ground.

Bemax, wheat germ practically free from bran subjected to moderate heat treatment.

Preparation for Parenthood

(See page 835)

Can a mother mark her baby?

No.

Can any one predetermine the sex of a baby?

No.

What about the pregnant woman who is employed and wishes to retain her position?

It is better to stop working and by all means by the seventh month. The physician will advise about special circumstances in which work is hazardous for the pregnant woman.

What of smoking and drinking during pregnancy?

Neither alcohol nor tobacco can do the baby any good. Drinking is not advised at all, and smoking should be limited.

Is hospital or home care safer?

Usually the hospital is safer and more convenient, but many babies are born at home with perfect safety.

What about travel during the time the child is being carried?

Expectant mothers should travel as little as possible. Journeys should be short or broken by frequent rests. Long automobile rides, especially over rough roads, are dangerous.

How much influence will heredity have on the child?

The child may be influenced by any or all of its ancestors. But good care and training may help to minimize hereditary disadvantages and enhance desirable inherited characteristics.

TREATMENT OF TRACHOMA

Sulfanilamide and its derivatives, sulfapyridine and prontosil, have proved effective in the treatment of ninety-five cases of trachoma (an infectious disease of the eyelids characterized by granulating or flaky elevations on the inside of the eyelids and over the eye accompanied by intense itching), Otis S. Lee Jr. and Hans Rottenstein, Shanghai, China, state in *The Journal* of the American Medical Association.

HERE'S A DELICIOUSLY DIFFERENT NEW FORM OF BRAN

New DOUBLE-MILLING process refines texture of NATIONAL BISCUIT 100% BRAN

People the country over are talking about this delicious-tasting, gentle-acting *new* form of bran!

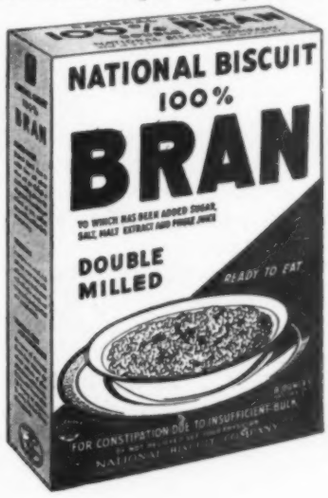
For National Biscuit 100% Bran is delightfully different—in both flavor and texture. It is made by a new, *improved* process of Double-Milling—which further breaks down the bran fiber making it less likely to be irritating.

You'll find National Biscuit 100% Bran a helpful aid in relieving that common form of constipation due to lack of sufficient bulk in the diet. This highly absorbent bran frequently helps in forming a large, soft mass in the intestines and aids elimination.

Get a package of National Biscuit 100% Bran today. Eat it regularly as a cereal, and try the recipe for delicious bran muffins on the package. If your constipation is not helped in this simple manner, consult a competent physician.

Check its Advantages

- ✔ accepted by the Council on Foods of the American Medical Association
- ✔ helps relieve constipation caused by too little bulk
- ✔ double-milled—made by an improved process
- ✔ a deliciously different New Form of Bran
- ✔ 100% Whole Bran
- ✔ furnishes significant amounts of Phosphorus and Iron and is a good source of Vitamin B_1



NATIONAL BISCUIT COMPANY

Thompson seedless grapes.

GRAPES

By MARION DARTNELL

THIS is the month when fruit bowls in thousands of homes are filled with grapes of varying sizes and colors. Dark blue Concord grapes with a dusty gray bloom upon them; light red Delawares covered with a lilac bloom; clusters of Tokays that do not belie the translation of their name as "Red, Father of Red"; seedless Sultaninas; red Malagas, and firm and luscious Emperors are ready to tempt the eye and the palate. Their fragrance alone is sufficient to lure any one to the fruit bowl.

Although America's appetite for grapes is large, less than a fourth of the 1939 grape crop (more than 2,500,000 tons) came to tables and kitchens with the fresh bloom of the vines. Over half of the grape crop consists of raisin varieties, and about one-fourth are wine varieties, which in one year accounted for a national consumption of 70 million gallons of domestic wine. The commercial grape industry is one of the first four major fruit industries of the nation, and is estimated to bring its growers more than $40,000,000 annually.

The abundance and variety of grapes grown in the vine regions of California and in the grape belts of the Midwest and the East would astonish Leif the Lucky who, legend says, was the first white man to recognize the excellence of the wild grapes growing in North America. He is credited with having conferred the descriptive title "Vineland" on the continent.

There are two types of grapes available in the American market: the European or winter grape *(Vitis vinifera)* varieties grown chiefly in California, and the native American or Eastern grape *(euvitis)* varieties of the Eastern states.

As early as 1769 the mission fathers were successfully cultivating European varieties of wine grapes in California. Since that time, other varieties have been imported from Europe and planted there.

The European (Western) grape varieties have a higher sugar content than the native American varieties. Because of this sweetness they make fine wine and raisins. Seeds separate readily from the pulp, but it is difficult to separate pulp from skin. The more popular Western grapes are the flame Tokay, Hamburg, Malaga and Sultanina.

The flame Tokay is one of the most extensively grown shipping grapes. Clusters are large, bearing fruits that are firm, though not particularly juicy. The red skin is tough and covers a greenish white pulp that has a rather sweet taste. October is the month for Tokays. Sultanina, better known as the Thompson Seedless, is the seedless raisin grape of commerce. The clusters average 10 inches in length. The berries are yellow-green in color. The flavor is sweet with a slightly acid tang.

The crowning piece in many bon voyage baskets is a magnificent bunch of Hamburg grapes, the berries glowing, round and coal black against their green leaves. The skin is thick and fairly tough, but the pulp is tender with a rich, aromatic flavor. Hamburg grapes can be obtained the year round if one is willing to pay the price, for they are grown extensively under glass. They ripen normally in late September.

Native American grapes *(euvitis* varieties) differ from their Western relatives *(vitis vinifera)* in that they have slippery globules of flesh that can be easily popped from from their skins. Hence, the name "slipskins." They are also less sweet and do not cloy the appetite as do the sweeter Western varieties.

The blue-black Concord, native of Massachusetts and most widely known of the Eastern "slipskins," has long been recognized as one of the finest jelly and grape juice grapes; connoisseurs the world over have acclaimed it as a fresh table delicacy. It has proved itself through the years to be what Horace Greely called it, "the grape for millions," and it has lost nothing by democratization. The berries are medium sized with black skin dusted over with a blue bloom. The pale green flesh, although sweet at the skin, is tart near the center. The pulp slips easily from the outer skin. In the form of grape juice and jelly, into which much of the Concord grape crop is converted, this grape is found in every out-of-the-way hamlet in the country.

In using the Concord or one of the other juicy native grapes, it is

well to remember that "spikes" or crystals will form if the juice does not stand overnight to permit precipitation before the required amount of sugar is added. If this simple precaution is taken, the high acid and pectin contents of the fruit assure a smooth translucent jelly with a superior flavor.

The light red Delaware is another native grape that appeals to many. Its slightly acid flavor enhances its value as a dessert fruit.

Grapes of all kinds are remarkable for the variety and delicacy of their flavors. In the quantities usually eaten, they provide small amounts of vitamin A and iron. The Concord and Sultanina varieties are reported to furnish vitamin A in amounts of 50 international units for each 3½ ounces. The Malaga grape is highest in iron, containing about 3.6 milligrams of iron per 3½ ounces of fresh grapes; Sultanina, 2.3 milligrams of iron, and the Concord, 1.4 milligrams.

Both Western and native grapes are favorite additions to appetizers, salads or gelatin desserts, lending color and fragrance.

Grape Juice Tapioca

5 tablespoons quick-cooking tapioca
½ teaspoon salt
1 pint hot red grape juice
½ cup sugar
1 cup crushed pineapple
½ cup whipping cream

Cook the tapioca in the hot grape juice in a double boiler for 15 minutes, stirring frequently. Stir in the sugar. Remove from heat and add pineapple. When cool, pour mixture into individual glasses and serve with whipped cream.

Grape Punch

1½ cups water
1½ cups sugar
1 quart grape juice
6 lemons (juice and a little grated rind)
6 oranges (juice only)
2 cups black tea infusion (made hot)
1 No. 2½ can crushed pineapple
2 quarts chilled or carbonated water
Cracked ice

Boil the sugar and water for 10 minutes. Cool and add the fruit juices and tea. Let stand 1 hour. Add the chilled water and ice and serve. Serves twenty.

"Until the baby wears long trousers"

THIS is a true story. A group of baby specialists were talking shop. It was the Round Table Discussion, a feature of the last annual meeting of the American Academy of Pediatrics.

A physician asked a question. Another, the leader of the discussion, replied: "Evaporated milk is the answer to the pediatrician's prayer, and its use may be continued until the baby wears long trousers."

Yes, that is the way it happened—and it further appeared, from the official account of this discussion, that practically all the physicians present were using evaporated milk *as first choice* for normal formula-fed babies. . . .

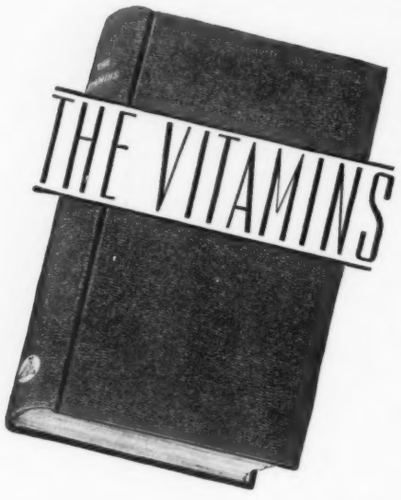
The qualities that have won evaporated milk this notable preference are well known. They are purity, uniformity, nutritive value, and ready digestibility. These are the qualities that have made Irradiated Carnation Milk such an outstanding favorite with physicians and mothers—these and its added richness in "sunshine" vitamin D.

Could you ask for more convincing evidence that Irradiated Carnation is one of the *finest* of foods for the bottle-fed baby—or for older children to grow on? Why not ask your physician about a Carnation Milk formula for your baby? And won't you write for your free copy of the 40-page, color-illustrated booklet, "Your Contented Baby"? *Address Carnation Company, 701K Gas Light Building, Milwaukee, Wisconsin.*

Irradiated Carnation Milk
"FROM CONTENTED COWS"

". . . a detailed handbook compiled by top-notch U. S. vitamin chasers giving the last word on vitamin chemistry, deficiency diseases, treatment."

TIME MAGAZINE, Oct. 2, '39



Contributions From 30 Outstanding Authorities

A complete summary of present-day thoughts and knowledge on the subject of vitamins. Material garnered from the fields of medicine, pediatrics, chemistry, biology and nutrition. Strictly a technical treatise!

"THE VITAMINS" will prove a useful text to dietitians, nurses, home economists—all scientific-minded people interested in nutrition.

PARTIAL TABLE OF CONTENTS

Vitamin A

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Vitamin E and Other Factors

637 pages, 8½ x 5½ inches. Red imitation leather binding. Price $1.50.

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Grape Pie

3 cups Thompson seedless grapes
3 tablespoons flour
¾ cup sugar
1 teaspoon lemon juice

Line a pie pan with pie crust. Wash and drain enough grapes to fill the pan. Blend the flour and sugar and spread over the grapes. Add the lemon juice. Cover with strips of pie crust, lattice style, and bake for 10 minutes in a hot oven (450 F.), then reduce heat to 350 F. and bake 20 to 30 minutes longer or until done.

Melon Cocktail

1 pint red grape juice
1 tablespoon lemon juice
2 cups watermelon balls

Scoop out watermelon balls from the seedless portion. Place in bowl and cover with grape juice and lemon. Let stand in refrigerator for at least an hour before serving. This is a refreshing appetizer for any dinner.

Grape Ham

When baking ham, cover the roast with a generous quantity of Malaga, Thompson or Tokay grapes, halved and seeded. Add 1 cup of brown sugar and ½ cup of white sugar for each 2 pounds of grapes. Cover and bake until done. Add no water after the grapes are put in. When done, remove the ham, thicken the juice in the pan with thin flour paste and serve in a gravy boat.

Grape Ice

1 package lemon gelatin
1 pint hot water
1 cup green Malaga grapes halved and seeded

Dissolve the gelatin in boiling water. Chill. When slightly thickened, fold in grapes. Pour into refrigerator freezing tray and chill 1½ hours. Break with a spoon and pile lightly in sherbet glasses. The irregular mass looks like ice.

Grape Jelly Sauce

1 glass grape jelly
1 tablespoon orange juice
1 teaspoon grated orange rind

Melt the jelly in the top of a double boiler. Add the orange juice and rind and beat well. Let cool to serve with custard desserts or serve hot with steamed puddings.

Grape Sauce for Desserts

1 cup sugar
2 tablespoons butter
1 tablespoon cornstarch
¾ cup grape juice
¼ cup water

Cream the sugar and butter and add the cornstarch mixed with the water. Boil and stir for 2 minutes. Add the grape juice and cook over hot water for 5 minutes longer. Serve with custards, cottage pudding, or bread pudding.

Grape Ginger Punch

1 quart grape juice
Juice of 4 lemons
½ cup sugar
1 quart ginger ale

Mix the fruit juices and sugar. Chill and let the sugar dissolve. Just before serving add chilled ginger ale.

Hot Grape Punch

1 quart grape juice
2 sticks cinnamon

Boil grape juice with cinnamon sticks for 5 minutes. Serve hot. This is a particularly spicy beverage for winter parties.

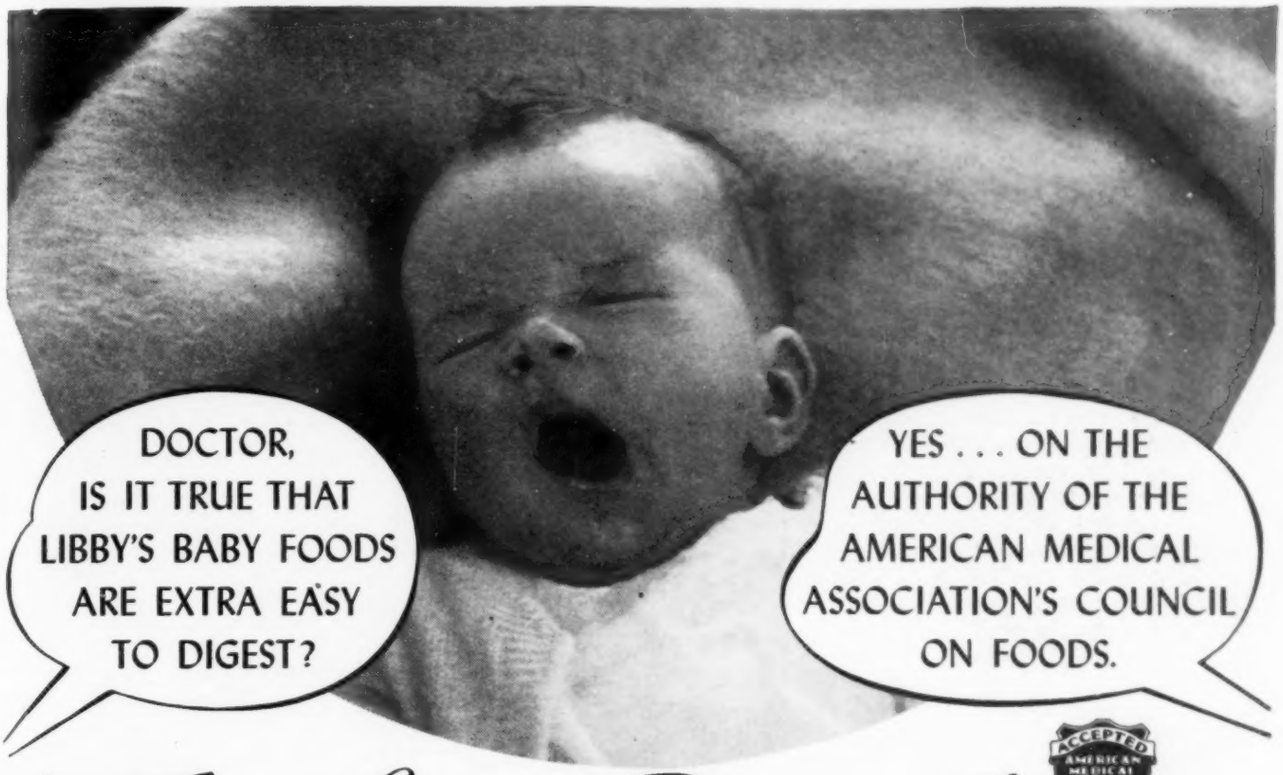
Grape Milk Drink

Freeze 1 quart of grape juice into cubes in the freezing unit of a refrigerator. When hard, remove from freezing unit and place two or three frozen grape-juice cubes in a tall glass. Fill with milk and serve at once.

Grape Juice

10 pounds Concord grapes
2 quarts water
½ cup sugar for each quart of juice

Wash grapes and pick from stems. Place in a large sauce pan. Add water and quickly bring mixture to a boil; then boil for 15 minutes. Filter this mixture through three or four thicknesses of cheesecloth. Add ½ cup sugar for each quart of filtered juice and boil. After the juice has boiled 5 minutes, pour into sterilized bottles and seal immediately with corklined tops. If tops are applied with a capper, this juice will be as delicious next September as it is now. It can be used in the intervening months not only as a noncloying, thirst-quenching drink, but also as a flavoring for punches, sherbets, creams, custards and gelatins.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The Versatile Tomato

By HELEN STEENBOCK BRINSMADE

Only after the tomato's high vitamin content was discovered, did this fruit find its proper place in the American dietary.

THE STEPS from the non-acceptance of the tomato as an article of food to its modern popularity have been fraught with hesitation and doubt. Yet, a superficial survey of its history and use will reveal a surprising chapter in the antiquity of its existence and the value of its inclusion in our every day menu.

Because of the fruit's beautiful coloring, even though surrounded by rather ill-smelling leaves, it was associated from the beginning with the qualities of love and beauty which the Greeks saw in their goddess Aphrodite, and the Romans worshipped in Venus. Because of that, the genus to which it belongs was designated as *Lycopersicum*, from *lykos*, a wolf, and *persica*, a peach, with the result that in the English language it became to be known as both the wolf-apple and the love apple. In German, it also symbolized the idea of love as is evident in the name of *Liebesapfel*. The same was true of its name *Pomme d'Amour* in French, and that of *Pomo d'oro* in Italian.

Yet, the origin of the tomato was not European. The fruit was first found by the Spanish conquistadores in South America. Although they described it as a wild species, it had doubtless already become a garden variety even then, after many years of cultivation by native Indian gardeners.

The word tomato comes from *tomate*, the generally accepted European and South American name for the English wolf-peach. On going back, we find that we are really indebted to the Aztecs for the fruit as well as its name. As mentioned before, they had cherished and cultivated it since long before the Europeans came to American shores, and even today use it as the *jitomate* when it belongs to the common garden variety, and as the *tomate* when it is the strawberry, or husk variety, known by us as the ground-cherry.

After we overcame our fear of the love's apple—for not so long ago it was believed to be poisonous or, certainly, very bad for the general health, especially for rheumatism—it began to be quite generally cultivated, and proved to be a very colorful, cheap, and palatable item of food. In fact, because of the facility with which it could be grown, its abundant fruit production and the ease with which it could be canned and kept, made it a very plebian dish in winter, too often associated with cheap boarding house fare, and somewhat despised because of that.

It took the discovery of its vitamin content, therefore, to bring its reputation back to the dignity of the family and high class hotel table. Now we drink its appetizing red juice before breakfast and dinner. We eat it raw in salads, and cooked in soups and vegetable dishes. Yet, even then, we often neglect to use it as much as we should for our own best nutrition.

Many studies have been made of the tomato with the object of finding out in just how far we can substitute it for other and more expensive foods with assurance that we are getting the desired results.

As early as 1918, the tomato was found to be a potent source of vitamin C, effective in warding off and curing scurvy. At the same time, the juice of the tomato was used for infant feeding in place of the more expensive orange juice. Such good results were obtained by this innovation, that in 1920, the research worker, Hess, recommended canned tomato juice without reservation for infant feeding, as a source of the antiscorbutic vitamin.

Later Osborne found that tomatoes contain significant amounts of vitamin B_1, the vitamin chiefly concerned in the prevention and cure of the dietary deficiency disease known as beriberi. Soon after, it was discovered that a third important vitamin, known as vitamin A, was also present in the tomato in large quantities. Hess then made the statement that, "canned tomatoes may be regarded,

from a nutritional standpoint, as a palatable solution of the three vitamins." He referred, of course, to vitamins A, B_1, and C.

In what state or form should we eat the tomato to get the full benefit of its vitamin content? According to Steenbock and Schrader, much of the vitamin content of the tomato is associated with the pulp. Therefore tomato juice, as marketed, should and does contain the finely divided pulp in suspension in the juice proper.

Experiments also showed that the highest vitamin content was seen in ripe, raw tomatoes. Ripe tomatoes canned by either home or commercial processes retain most of their vitamin potency, while green pickled fruit has been shown to have very little vitamin C content. Artificial methods of ripening the fruit do not seem to be deleterious, so that ripe, green-house tomatoes sold in winter have as much vitamin potency as those which are vine matured.

More recent research has shown that tomatoes also contain appreciable quantities of a fourth vitamin, vitamin G, now known as riboflavin. This vitamin has been shown to be essential for growth and also for the prevention of certain skin lesions which may develop in malnourished persons, particularly children.

It has been demonstrated that tomatoes are important sources of at least three essential vitamins and that they can be substituted for orange juice, although in about double quantities, as an effective but frequently cheaper source of vitamin C.

The tomato, with its versatility, can be served in punch, soup and salad; raw, baked and cooked; for breakfast, lunch and dinner; in the simple form of an appetizer down through the labyrinth of attractive, appetizing salads. Spanish speaking peoples, and in fact all Latin peoples, have used tomatoes for ages as a daily condiment. Unconsciously they have absorbed the important nutritional benefits. How much easier can we, with the background of modern scientific discoveries, fortify ourselves against some of the commonest dietary deficiency diseases and like it!

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Milk, more completely than any other food, supplies essential nutrients frequently discovered lacking in the average dietary

Veal and Carrot Sandwich

Split Pea Soup

Sausage with Cream Gravy

Economical Food for Thought

The vitamin content of school lunches should be carefully considered, especially if other daily meals are apt to be lacking in protective food requirements.

Probably the most important aid in preparing a sufficiently nutritious school lunch is an economical milk supply. Milk, more than any other single food, furnishes the essential nutrients most likely to be lacking in the average diet, and its liberal use can overcome many serious deficiencies. Evaporated milk is well adapted to such use. It should be remembered that milk is just as

valuable in the diet, whether cooked or raw, whether served in foods or taken as a beverage. The following recipes are suggested complements to the schoolchild's diet:

Sausage with Cream Gravy

1 pound sausage meat
⅓ cup flour
2 cups hot water
2 cups irradiated evaporated milk
Salt and pepper

Shape sausage meat in patties and fry slowly until brown. Remove patties from frying pan. Blend fat remaining in pan (there should be about ¼ cup) with the flour. Add hot water gradually. Stirring constantly, boil until mixture begins to thicken, then add milk and continue cooking until thickened. Return sausage patties to sauce and reheat. Serve on hot, split biscuits. Yield: 8 servings, 16 patties.

Biscuits

2 cups flour
4 teaspoons baking powder
¼ cup cold shortening
½ teaspoon salt
⅓ cup irradiated evaporated milk and
⅓ cup cold water, mixed

Sift flour, then measure. Resift with other dry ingredients. Rub shortening into flour. Add diluted milk and mix quickly but thoroughly. The dough should be soft. Turn onto a floured board. Knead about ½ minute. Roll to ⅜ inch thickness. Cut and place on baking sheet. Bake in a hot oven (450 F.) about 12 minutes. Yield: 8 to 12 large biscuits.

Split Pea Soup

1 pound split peas or navy beans
Bacon rind, or ¼ pound bacon, or ¼ pound trimmings from ham or ham hock
1 onion, stuck with a few cloves
Small piece of red pepper pod
Salt
2 tall cans (3⅓ cups) irradiated evaporated milk

Pick split peas over carefully. Wash, cover with water and soak several hours. Drain. Add 2 quarts boiling water, bacon, onion, and bit of red pepper pod. Boil until split peas are tender. There should be about 2½ quarts pulp and liquid. Add milk. Salt to taste, about 1½ teaspoons will be necessary. Serve with about five thin slices of frankfurter. Yield: 3¼ quarts soup.

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Veal and Carrot Sandwiches

Put equal parts of cooked veal and raw carrot through a food chopper. Add a little chopped celery, salt and pepper and enough salad dressing to make mixture spread easily between thinly sliced, buttered bread.

Brown Nut Bread

- 2 tablespoons sugar
- 2 tablespoons shortening
- ½ teaspoon salt
- 1 egg
- ½ cup irradiated evaporated milk
- 1 cup water
- 1 cake compressed yeast
- ¼ cup pecans
- ¼ cup dates
- 1½ cups whole wheat flour
- 2 cups white flour

Heat half of water to boiling. Pour over sugar, salt and shortening. Combine yeast with other half. Beat egg. Add milk. Combine mixtures. Add flour and knead. Place dough in greased bowl and let raise until double in bulk, about 2 hours. Knead and shape into loaves and place in greased bread pans. Cover and let raise until again double in bulk. Bake in a hot oven (400 F.) until done, about 45 minutes. Yield: 2 loaves, about 1 pound each.

Tomato-Milk Drink

- 1 tall can irradiated evaporated milk (1⅔ cups)
- 1⅔ cups cold water
- 1 can tomato juice (15 ounces)
- ½ teaspoon salt
- ½ teaspoon celery salt

All ingredients should be cold. Mix milk and water. Stir in the tomato juice. Add seasoning. One-half teaspoon Worcestershire sauce may be added. Yield: 8 to 10 servings.

Corn Chowder

- 2 ounces salt pork
- 1 small onion, sliced
- 1 No. 2 can corn (2¼ cups)
- 2 cups diced potatoes
- 1½ cups tomatoes
- 1 teaspoon salt
- 1 tablespoon sugar
- Pepper
- 1 quart boiling water
- 1 tall can irradiated evaporated milk (1⅔ cups)
- Crackers

Cut pork into small pieces and fry slowly to a golden brown in a large saucepan. Add onion and cook slowly without browning 5 minutes. Add corn, potatoes and tomatoes in alternate layers. Sprinkle with salt, sugar and pepper. Add water and cook slowly until potatoes are tender. Remove from fire and stir in the milk slowly. Pour over crackers in hot soup plates. Yield: 6 servings.

Creamed Meat Balls

- 1 pound round steak
- ½ pound pork
- 1 egg, well beaten
- 1 teaspoon onion juice
- ½ teaspoon salt
- Pepper
- 3 tablespoons flour
- 1 tall can irradiated evaporated milk (1⅔ cups) and
- 1 cup water, mixed

Put meat through food chopper 3 or 4 times. Add eggs and seasonings and mix thoroughly. Add milk to make the right consistency to press into cakes about ¾ inch thick. Brown in hot fat. Remove the meat cakes. Add flour to the fat remaining in the pan and stir until well browned. Add diluted milk and stir to blend well. Return meat cakes to gravy and cook slowly until gravy is thickened. May be served on hot biscuits, cornbread, or mashed potatoes. Yield: 6 large servings.

Bean Loaf

- 3 cups boiled navy beans
- 1 small onion, chopped
- 3 tablespoons melted bacon fat
- 1 cup bread crumbs
- 1 egg
- 1½ teaspoons salt
- 1 cup irradiated evaporated milk

Mash beans. Add other ingredients and stir to blend well. Turn into a well greased baking dish. Bake in a moderate oven (375 F.) about 45 minutes. Serve with catsup or tomato sauce. Yield: 6 to 8 servings.

Spaghetti Loaf

- 2 cups spaghetti, broken in 2-inch pieces
- Clove of garlic
- ½ pound American cheese
- 1 tall can irradiated evaporated milk (1⅔ cups)
- 2 eggs
- ¾ teaspoon salt
- ¼ cup finely cut parsley
- 1 tablespoon grated onion

Boil spaghetti until tender in salted water to which the clove of garlic has been added. Drain and rinse. Melt finely cut or grated cheese in the milk over boiling water. Beat eggs. Add salt, pars-

ley, onion, spaghetti and cheese sauce. Pour into a buttered loaf pan. Bake in a moderate oven (350 F.) one hour. A sharper cheese may be used if desired. Yield: 6 servings.

Liver Loaf

1 pound beef liver
1 small onion
Few sprigs parsley
1½ teaspoons salt
1 egg
1 tall can irradiated evaporated milk (1⅔ cups)
2 cups bread crumbs

Wipe liver. Cut into slices, then put through a food chopper with the onion. Add finely cut parsley and remaining ingredients. Pour into a well greased loaf pan. Bake in a moderate oven (350 F.) 30 to 40 minutes. Yield: 8 servings.

Corn Pudding

2 eggs
1 teaspoon salt
1 tall can irradiated evaporated milk (1⅔ cups)
1 teaspoon grated onion
Dash red pepper or cayenne
1 No. 2 can cream style corn

Beat eggs. Add remaining ingredients. One-half cup chopped green pepper may be added. Pour into buttered shallow baking dish. Bake in a slow oven (325 F.) until firm. Yield: 6 servings.

Bread Pudding

2 cups bread (3 slices)
2 eggs
½ cup sugar
¼ teaspoon salt
1 tall can irradiated evaporated milk (1⅔ cups)
1 cup boiling water
Cinnamon or nutmeg
½ cup raisins, if desired
1 tablespoon butter

Place bread in buttered baking dish. Beat eggs, add sugar, salt and milk. Stir in the water. Add seasonings and raisins. Pour over bread. Dot with butter. Bake in a moderate oven (350 F.) until set, about 45 minutes. Yield: 6 to 8 servings.

Variations of Bread Pudding

Chocolate Bread Pudding: Omit seasonings and butter. Increase sugar to ¾ cup. Add 2 squares melted bitter chocolate, mixed with sugar, and ½ teaspoon vanilla extract.

Cocoa Bread Pudding: Omit seasonings. Increase sugar to ¾ cup. Mix 6 tablespoons cocoa with sugar. Add ½ teaspoon vanilla extract.

Pineapple Bread Pudding: Omit seasonings and butter. Use 1 cup juice drained from pineapple in place of the water and add 1 cup crushed pineapple to bread mixture.

Apricot Rice Custard

½ cup rice
2 eggs
1 cup juice drained from apricots
2 cups irradiated evaporated milk
1 cup pulp of stewed dried apricots, sweetened with ¼ cup sugar
Pinch salt

Wash rice. Drop into 1 quart briskly boiling water to which 1 teaspoon salt has been added, and boil until tender. Drain and rinse. Beat eggs, add apricot juice and milk, then the rice. Add a pinch of salt to the apricot pulp and spread in a buttered shallow baking dish. Add rice mixture. Bake in a slow oven (300 F.) until set, 45 minutes to 1 hour. Prune juice and pulp may be used in place of apricots. Yield: 8 servings.

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Your Son at Seventeen

(Continued from page 769)

Parents often make no effective effort to cooperate, unobtrusively and efficiently, in providing a normal social life for young people. They have vaguely supposed that the school organizations or the church should be responsible. Whenever parents abandon this supine and unimaginative position and begin to do efficient team-work from behind the scenes, the young people profit. If parents do not approve of roadhouses and night clubs, or of parked automobiles as the only recreation available to their offspring, they can easily provide something else if they will work together.

Boys should be encouraged to go, at least part of the time, with girls somewhat younger than themselves. Social life in cities is insensibly but largely built up on the school stratification. Boys 16 years old go with girls 16 years old; disregarding the fact that the girls are several years more mature than they are, biologically, socially, and emotionally. The school system cannot be changed easily, but parents can help their children to get a wider range of acquaintances, vertically as well as horizontally.

Boys must be protected from exploitation by more mature females. This is not a popular subject for discussion, but those behind the scenes know that a large proportion of all boys who have premarital sexual intercourse are seduced by older and more experienced women, often under conditions that are as far from being "romantic" as one can well imagine.

Boys must accept more responsibility in their own social life. They are too often mere pawns in a game played by the girls and their mothers. If boys learn to make plans, carry them out, and accept responsibility for the results, they will be better husbands a few years later. But as long as boys are associating exclusively with girls of their own chronological age who are in every other respect too mature for them, it will be natural for the girls to make the plans and for the boys to do what they are told. As long as this condition lasts, it will be hard for them to grow up to a full acceptance of responsibility, initiative, and self-control in their relations with girls.

Boys need less feminine domination in all situations during the adolescent period. Otherwise they learn unconsciously to regard the other sex as the one that is exploiting them, and therefore a proper subject for reciprocation whenever possible.

Boys need more sex-releasing activities in their social life. Social activities involving both sexes may be either sex-stimulating or sex-releasing. They are sex stimulating if the interest and attention are focused on the personal relations of the male and female. They are sex-releasing if the interest is focused on the group. The same recreation (dancing) may be either, according to the method of indulgence. Most people admit that folk dancing, hiking and amateur dramatics are sex-releasing activities. They would also agree that parking in an unlighted automobile is not likely to be a sex-releasing activity. Not only parents and other supervisory authorities, but also the young people themselves, should promote sex-releasing activities as a substitute for sex-stimulation during adolescence.

Education for Marriage

If they are taught to seek that goal, if they are led unconsciously to weigh their actions by that standard, and if they are impressed by the happiness of their own home, they will want to have one equally good in the future. They will realize that it requires preparation and planning, and they will not be likely to digress in premature experimentation.

Fortunately, this orientation is becoming more and more prevalent. The obsolete ideas of sex education, at home, or in school and church, which ignored this destiny (for 90 per cent of all the boys and girls who reach maturity will marry) are now recognizedly archaic. Parents may usually expect to be helped by the boy's natural tendency to grow up. He has the growth impulse within him, and will grow normally if given the chance. Studies of adolescents at various ages show that there is a steady improvement in their average scores on tests of adjustment. Children do get through the adolescent period successfully, as a group; and the number of those who fail can be greatly reduced by a little more knowledge and patience by the parents.

The help which a boy needs to get through the adolescent period successfully is not by authoritarian instruction. He will go right only if you teach him that sex is an integral part of his whole personality, and if you develop his whole personality in such a way as to lead him to successful marriage and parenthood.

SULFANILAMIDE

If sulfanilamide is given early enough, before bone destruction occurs, the duration of the discharge of pus from infected middle ears is diminished by about 50 per cent and the chances of a mastoid operation becoming necessary are also reduced by about the same percentage, Wesley C. Bowers, New York, declares in *The Journal* of the American Medical Association as the result of his analysis of a series of 793 of such ear infections, 396 of which received drug treatment.

Not only did drug treatment reduce the duration of the discharge but the number of recoveries increased from 67 to 81 per cent, the author says.

HIGH BLOOD PRESSURE

Temporary elevations in blood pressure due to emotional stress, although commonly believed insignificant, probably indicate that the patient will be susceptible to hypertensive disease in later life, Edgar A. Hines Jr., Rochester, Minn., maintains in *The Journal* of the American Medical Association.

He studied the records of 1,522 patients, 732 of whom were reexamined ten years and 790 twenty years after their original blood pressure reading. He found that in 13.2 per cent of the first group and 23.5 per cent of the second group high blood pressure had developed. Among patients whose original blood pressure was high, 59.7 per cent of the ten year group and 82.5 per cent of the twenty year group had high blood pressure at the time of the follow-up study.

SEPTICEMIA

The recovery of two patients from septicemia (bacteria in the blood) was brought about by treatment with sulfathiazole, a new sulfanilamide derivative, W. Calhoun Stirling, Washington, D. C., reports in *The Journal* of the American Medical Association.

In the author's opinion sulfathiazole seems less toxic (poisonous) and more effective than other members of the sulfonamide group, nausea being the only side effect seen, and this subsides quickly when the drug is discontinued.

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LET YOURSELF GO—RELAX

(Continued from page 784)

five minutes before every hour, and all employees stop work until a second bell, on the hour, has rung. Walter B. Pitkin tells of a Pennsylvania textile mill which, within one year, lowered the turnover in its spinning department from 250 per cent to zero by having the workers lie down for ten minutes every two hours. While this may be an extreme incident, it is true in all cases that the rise in productivity and the decrease in accidents gained by forestalling fatigue in industrial workers more than compensate for the amount of time expended.

Tricks for utilizing every spare minute to gain rest are common to busy persons. David Lloyd George dozes off as soon as he enters a car. Mrs. Roosevelt sleeps on plane trips. Napoleon's amazing powers of concentration enabled him to enjoy odd moments of sleep even while on horseback!

Why is it not possible for a business man to sit quietly at his desk a few times each day and deliberately detach his mind from business worries? A five minute rest of this kind is worth more than an extra half-hour's sleep. The housewife, strained with petty domestic annoyances, should drop everything and lie down whenever she feels like shrieking, "I'm becoming a nervous wreck!"

Regardless of method, get a complete break from activity somewhere in your day. A clever salesgirl uses this trick: When she comes home each evening, she undresses and lies flat on her bed for ten minutes, arms outstretched, with a water or witch-hazel compress on her eyes. Meanwhile, she thinks of something pleasant that has happened to her. Such conscious relaxation is even more valuable that sleep, because waking thoughts can be controlled to avoid disturbing elements, while during sleep the mind runs free.

To make your workday less arduous, carefully judge the limit of your ability. Check up periodically to see whether your workday activities are all aimed directly at the attainment of your goal. Tolerate useless activities only as recreation. Observe your work habits and eliminate unnecessary, energy-sapping motions, such as wrapping one foot around another or gritting your teeth.

Lack of motion can cause tensed muscles. It also happens to the machine worker whose job entails one type of motion all day; to the typist who sits hunched over her machine; to the traveling salesman who keeps his right foot pressed on the accelerator for hours at a time. Sometimes these static positions affect you even when you think you are perfectly relaxed. Watch a man seated at a library table, jotting down notes. Look closely and see how he grips his chair or his book, taps or turns his feet, bows his head, wrinkles his brow and tenses his writing arm. Periodic change of activity relieves such tension quickly. When his fingers ache from typing, Walter B. Pitkin stands up, relaxes his arms and then snaps them as if he were cracking a whip. Blood rushes to his finger tips and he returns to his typing, refreshed. When he wearies of sitting over a desk and reading, he also rises and swings his arms as fast as possible.

The old fashioned ramrod sitting and standing postures are also inimical to relaxation, says Miss Rathbone, because they place unnecessary strain on certain muscles. When you stand, do not try to hold yourself up by your shoulders; be at ease. In sitting, remember that a chair is meant to support your entire back; lean back and sit comfortably. Tall men whose legs are cramped when at a desk should move about in their chairs occasionally or walk around and stretch.

Purely physical causes of tension can usually be eliminated simply, but when mental attitudes enter the picture, tightened muscles become harder to relax. Yet many persons were freed of the strain brought on by emotional problems, economic insecurity, family and sexual difficulties and worry about the future.

A tense young woman, whose drab life had never known any real companionship, was relieved by a technic of corrective exercises and friendly attention. Comfort was brought to an older woman whose uneasiness was caused in part by a feeling that her husband was unfaithful. A 30 year old secretary reported that she had been unable to digest her evening meal for several weeks. An analysis of her case showed that during a day of high speed activity and petty irritations, she was aggravating the strain of trying to excel her sister. A program of conscious relaxation and graduated rhythmic exercises relieved the tension.

Emotional crises often induce unnecessary muscle fatigue because the individual plunges into hectic activity "to forget." Avoid excess emotion. Forget the unpleasant experiences of the past and stop worrying about the future. For example, there is a story of a man who lived in such dread fear of his landlord's next demand for rent that when a leter arrived one morning, he left it unopened for three hours. Meanwhile, he went out and pawned his silver. When he finally got up courage to open the letter, the landlord merely wanted to discuss renewing his lease for the next year.

Since every one's job entails some anxiety, the ability to forget your work entirely after hours is invaluable. Especially in times of stress, will you appreciate the knack of blacking out personal and business worries. To tide you over such periods, there are three practical solutions—exercise, friends and books. A fast set of tennis, a chat with friends, or an absorbing book prove remarkably recuperative forces.

Tricks to forestall tension are many, but the simplest one is proper sleep. And that is the device most of us forget. Napoleon may have said "Six hours for a man, seven for a woman, eight for a fool," but even he snatched cat naps on horseback. According to legend, Thomas Edison got along with four hours of sleep a night, but actually he kept a cot in his laboratory and slept four hours at a time, whenever he felt sleepy. But for the rest of us, who have to fit into other people's schedules, at least eight hours of sleep at a regular time and under favorable circumstances is absolutely essential for mental poise.

The value of sleep is intrinsically the same at any hour, but after 8 o'clock in the morning your slumber is often disturbed by the noises of a waking world. However, do not go to sleep immediately

after finishing a tiring piece of work; let the wheels of your body run down to a state of calm before you retire. Otherwise your sleep will be restless and broken.

The training center at Columbia University uses elaborate technics of massages, exercises and daily work schedules to induce relaxation, but for the ordinary person who does not require such extreme treatments, Miss Rathbone suggests a simple ten point plan to relieve excessive tension. Unless your condition is sufficiently aggravated to require medical attention, you should feel eased and refreshed if you follow this program faithfully for two weeks.

1. Adjust your work chair to support your back up to the shoulder blades. Keep the knees higher than the hips.
2. Wear comfortable shoes and clothes.
3. Arrange your schedule so that you may walk around or lie down for five minutes of each hour.
4. Lie down on the floor with a firm pillow beneath your back for two ten minute periods each day, preferably before lunch and dinner.
5. Walk twenty blocks each afternoon, regardless of the weather.
6. Take no extremely hot or cold baths.
7. Give up drinking stimulating beverages.
8. Do not dwell on disappointments or schemes for the future. Think of the pleasant episodes in your life.
9. Give up all evening engagements for two weeks. Buy a few good books on subjects other than your business. Retire at 10 o'clock, read for an hour or less and then keep thinking about the book until you fall asleep.
10. In going to sleep, try to let one part of your body after another become relaxed.

As the tempo of our life increases, we shall need to know more about the intelligent use of our leisure to throw off the tension of work and to store up energy. Athletic teams stretch out on the ground to rest during every spare minute of the game. Similarly, in lesser degree, we should use every chance we have to store up reserve energy for the demands modern life places upon us.

Ours is a high pressure civilization. Everywhere, we are goaded into expending every energy to attain the rewarding end-all called success. But we limit our enjoyment of any success if, in attaining it, we develop undesirable states of sustained nervous excitement. For lives that are both fruitful and healthy, let us add to the copy book maxim, "Work hard," another, "Take it easy—RELAX!"

SWALLOWING FOREIGN BODIES

Surgery is rarely necessary in the treatment of a child who has swallowed a foreign body, such as a pin, pencil or screw, C. Joseph Delaney, New York, contends in the New York State Journal of Medicine. He reports forty-one cases in which such a foreign body was passed from the body normally without surgery. X-rays and fluoroscopes were used to follow the course of the object in the body and a regular diet was given. Cathartics were avoided.

The objects swallowed ranged from ordinary pins to such articles as pieces of glass, a jack, a key and the head of a celluloid doll. However, there were no objects that were pointed at both ends, which are often considered very dangerous and might therefore require surgery.

Don't try to make your child cough up an object he has swallowed, the writer warns parents. Such a "cure" may be worse than the disease, for it may cause the object to become lodged in the esophagus, a condition much more serious than if it remained in the stomach.

Poster Contest

A cash prize of $1,000 will be offered by the American Society for the Control of Cancer for the best enlistment poster submitted between October 1 and 12. Nine other cash prizes will also be awarded.

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QUESTIONS AND *Answers*

Sacroiliac Strain Explained

To the Editor:—Please explain sacroiliac strain in detail, the cause and the cure or effectual treatment that will prevent such frequent occurrences.

A. J., Washington.

Answer.—The term sacroiliac strain is a complex subject. Some authorities believe that this term is loosely used to describe a large group of disturbances that occur in the lower back. It is a fact that this is a true joint and that it is subject to stresses and strains of other joints; but in addition, it is peculiarly vulnerable to the forward and backward bending and torsion or twisting strains which occur in everyday life.

There is a long list of movements and activities that are apt to produce sacroiliac strain, such as attempting to raise a window that is stuck. The act of raising a window which is opened with difficulty is made worse when the person attempting this act is unable to stand squarely at the middle of the window and is compelled to stand on one side and exert his force in an asymmetrical manner.

Lifting at a mechanical disadvantage, as pictured here, is the most common cause of strained sacroiliac joints.

Lifting at a mechanical disadvantage such as stooping and twisting the body, as in the old days when automobiles had to be cranked, is a common cause of trouble in the sacroiliac region. It is a frequent complaint among office workers who attempt to lift a desk and place a rug under the desk. It is also common among persons whose occupations are of a sedentary nature, who become unduly enthusiastic about athletics and engage in sports at infrequent and irregular periods, trying to make up for lost time. When a father engages in rough and tumble tactics with his child, he is apt to have a strain of the sacroiliac joint. The structural-iron worker, who stands on two beams and lifts a heavy keg of rivets, while his body is flexed and rotated, may be a victim. The person who has slept in a bad postural attitude during the night and suddenly jumps out of bed is apt to feel a sharp pain in the sacroiliac joint, when he bends over the basin to wash his face.

There is a cure for this condition which involves a support, other braces or a so-called sacroiliac belt or corset, physical therapy including radiant heat, massage and inductotherm [a device for producing fever therapy by electro magnetic induction].

Some of the cases require injection of various substances to relax muscle spasm and relieve pain. Some require manipulation while under anesthesia. In a certain proportion of cases, nothing relieves the condition except operative orthopedic surgery. This requires careful selection of cases and a highly specialized technic.

X-rays should be made in every case, but the patient should not be disappointed if a great deal of positive evidence is not revealed.

Meat in the Diet

To the Editor:—Is it sufficient to have meat only four times a week or should it be served oftener?

G. L., Illinois.

Answer.—To obtain adequate amounts of protein in the diet, some protein-rich food in addition

to milk should be eaten at least once and preferably twice daily. Among the foods classified as rich in protein are meat, fish or poultry, eggs, cheese, nuts and dried peas, beans and other legumes.

The protein requirements of children are high in proportion to their size and it is generally considered by experts in nutrition that to obtain adequate amounts of protein a child should eat daily 1 quart of milk (which also supplies calcium, riboflavin and some vitamin A) and one or preferably two servings of one or more of the other protein foods listed. Adult requirements will be met if 1 pint of milk is used in addition to one or more of the other protein-rich foods. Whether meat is selected as the "protein-rich food" to be eaten depends on individual circumstances. There are no contraindications to the use of meat in the diet of the normal child or adult of normal digestive capacity.

Meat is an important source of iron and phosphorus in the diet and some meats are rich in some of the factors of the vitamin B complex.

Cold Quartz Mercury Lamps

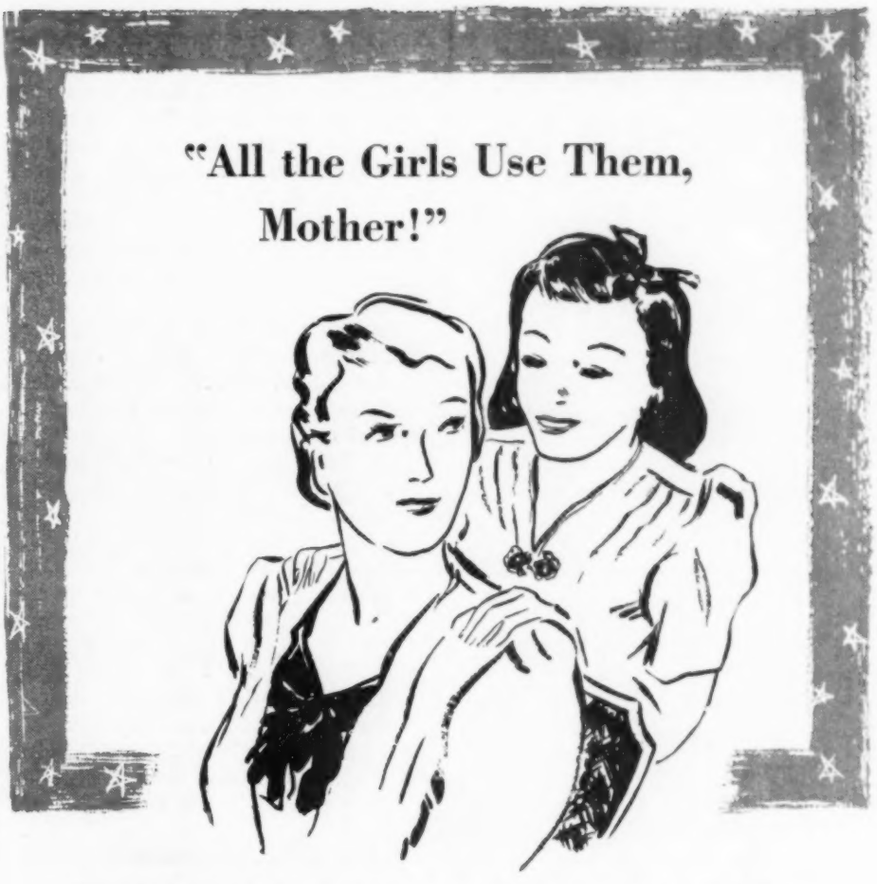
To the Editor:—Will you be so kind as to give me your opinion of cold quartz mercury lamps. I have been advised to get this type of lamp as I am susceptible to various infections and have little resistance.

I have been told that these lamps supply only a small amount of the vitamin D that I would be able to get from so-called vitamin capsules.

How long should I be under this lamp? Has the cold quartz mercury lamp very much advantage over an infra-red lamp?

J. M., Illinois.

Answer.—In the opinion of many physicians using ultraviolet radiation for treatment there is a question as to the desirability of using the cold quartz lamp for general body radiation. In this cold quartz lamp 95 per cent of the biologically effective radiation that is emitted is of the wave length 2,537 angstroms. Experiments show that the destruction of vitamin D is the result of excessive radiation (though not exclusively) by wavelengths shorter than 2,700 angstroms. One author in a recent article quotes some of



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these experiments and then states: "In view of the foregoing results, even though no ill effects seem to have been reported, and an excessive exposure is limited by skin tolerance as manifested by the resulting redness, the question arises as to the desirability of treatment with lamps emitting an excessive amount of ultraviolet radiation of wavelengths shorter than 2800 angstroms."

For general body radiation for treatment purposes the commonly used artificial sources of ultraviolet radiation are the carbon arc and the hot quartz lamps.

The influence of ultraviolet radiation in preventing infections is questionable. The Council on Physical Therapy of the American Medical Association states in part: "In spite of the many claims made for ultraviolet therapy available evidence indicates only a limited number of physiologic effects definitely attributable to this physical agent. It is known that direct exposure of the skin to ultraviolet radiation from the sun or from artificial sources results in the formation of vitamin D within the organism. Vitamin D, in turn, has a favorable influence on calcium and phosphorous metabolism.

"The claim that exposure to ultraviolet rays increases or improves the tone of the tissues or of the body as a whole, stimulates metabolism or tends to prevent colds in normal persons has not been conclusively substantiated."

Likewise, it is questionable whether vitamin D capsules will prevent infections and raise body resistance. The Council on Pharmacy and Chemistry of the American Medical Association does not recognize statements that vitamin D has all the beneficial effects of exposure to sunshine.

It is difficult to express a definite opinion on the condition of a patient and to give suggestions for his treatment without a personal examination. The personal physician is the best judge of the treatment needed.

The dosage of ultraviolet radiation is measured by the patient's distance from the burner and by the time of exposure to the ultraviolet lamp. The action of infra-red rays is instantaneous heat, and they produce a burning sensation when the intensity is too great. These infra-red rays are used to increase the superficial capillary circulation.

On the other hand, the ultraviolet rays have a photochemical effect on the skin fats resulting in the formation of vitamin D within the organism and a redness of the skin. This redness or erythema of the skin, unlike that from the infra-red, is slow and insidious so that the effect is not perceived until from three to six hours after exposure.

Lime Deposits in the Ear

To the Editor:—What causes lime deposits to form on the ear drum? What effects, other than loss of hearing, may this condition have? Can such deposits be removed, and would electrical treatments prevent them?

Answer.—Deposits of lime salts in the middle layer of the tympanic membrane or drumhead (not drum), causing white, distinctly outlined areas of variable form and size occur as the result of attacks of inflammation in the middle ear (drum).

They do not decrease hearing and are often observed in persons whose hearing is normal. We do not know of any means of removing them by treatment. In younger individuals they have been known to gradually disappear.

We have no well-authenticated reports concerning their prevention by electrical treatments. The best means of preventing them probably is by keeping the middle ears in a healthy condition. Causes which interfere with the normal working of the eustachian tubes include partial or one-sided nasal obstruction, the presence of adenoids about or in the tubes, sinus diseases and other abnormal conditions which should be treated by a qualified physician.

Vitamin Loss in Cooking and Preserving

To the Editor:—How much loss, if any, occurs in the vitamin content of fruits, fruit juices and vegetables when they are cooked, canned, preserved or dried?

Answer.—The vitamin content of cooked, canned or otherwise processed fruits, fruit juices and vegetables depends on a number of factors. Among these are:

1. The original vitamin content of the fruit, fruit juice or vegetable.

2. The time and temperature of cooking or processing.

3. The method of cooking or processing.

4. The natural acidity, the presence of oxidative enzymes and other reactions of the food itself.

Evidence concerning the losses of the various vitamins in cooking and canning is still somewhat fragmentary but sufficient experimental evidence has accumulated to warrant the view that vitamins A and G (riboflavin) are little affected by good modern canning procedures or by cooking. Some evidence has been presented to show that the vitamin A of cooked foods may be more readily available to the body than that of raw foods.

Vitamin B_1 (thiamin) and C (ascorbic acid) are subject to loss in canning or cooking both because of the solution of more or less of the vitamin in the cooking water (or in the liquid in which the food is canned) and because of more or less destruction of the vitamin itself. Available evidence indicates that the vitamin B_1 and vitamin C content of acid fruit juices such as orange and tomato juice may be little affected by good modern canning procedures. Losses in other foods vary considerably, but in general it may be said that the vitamin content of canned foods compares favorably with that of similar foods cooked in the home.

Drying seems to be much more destructive of the vitamin A and C content of foods than is either cooking or canning. The use of sulfur dioxide in the drying of fruits may help to preserve vitamin C but appears to be destructive of vitamin B_1.

Tongue Sucking

To the Editor:—My 3 year old son sucks his tongue at night and also during the day. How may I prevent this?

J. T., Texas.

Answer.—Early in life the baby is equipped with sucking pads which nature has supplied in order to aid him in securing his food through the nipple. These sucking pads usually disappear by the end of the first year. Bottle-fed babies do not exercise sucking pads nearly as much as do breast-fed infants, so that usually the latter group seeks additional satisfaction in sucking whatever objects become

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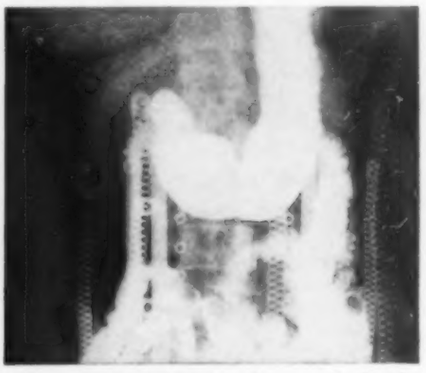

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accessible. Since the thumb is always within easy reach, it will naturally be freely utilized as a pacifier. Tongue sucking is not nearly as prominent in young children as is finger sucking. The tongue is usually inserted into the cheek and moved about, or it may be rolled up and down against the palate or backward and forward against the lips. The habit is frequently a result of attempted restraint against thumb sucking. Unless carried to excess and beyond early childhood, there is little to be feared. Prolonged indulgence may, however, interfere with normal facial development.

The habit may be prevented by giving conscientious attention to the problem and by seeking sound guidance on how best to supply the physical and mental needs of the child. A sensible program to keep the young child happy will usually be all that is necessary to avoid the habit. If in the attempt to break him of his thumb sucking, the child should be found substituting his tongue, it is better to use a pacifier than to embark upon a regimen of restraint through mechanical or chemical means. He will suck neither his thumb nor his tongue if something more attractive is offered —a stalk of dry celery, a chicken bone or a lollypop.

In the case under present consideration, the child should be carefully examined by a competent physician, with special attention to his physical endurance, his emotional status, his habits (particularly his rest periods) and the nature of his sleep. A restless sleeper is prone to indulge in many secret activities during his waking hours, and these usually become aggravated during the periods of light sleep. He overtaxes not only the muscles of the tongue and mouth, but all his other muscles as well. Strict adherence to accepted rules of hygiene, aided by suggestions from a competent medical adviser, will bring about desired results.

Changing Color of Hair

To the Editor:—An oil containing a dye was used on my hair by mistake. Oil treatments, rinses and tints have since been used to restore the natural color. After a shampoo at the beauty parlor, my hair, naturally blond, became markedly darker. The operator said this change was due to poor health. Is this true? What are the least harmful shampoos, oils and tonics for women's hair?

L. K., Indiana.

Answer.—The color of hair is due to pigments in the hair substance. Several kinds of pigments are produced in the root from which the shaft of the hair grows. Since the use of dyes, tints and brilliantines superimposes a new color and also changes the character of the natural pigments, the result is hard to determine beforehand. Blond hair fades easily; sunlight and many mild chemical reagents produce color changes. Your experiences are not unusual.

Soap shampoos made from oil base soaps contain fewer alkalies than those made from soft soap base. Soapless shampoos are sulfonated oils. Both types are good cleansing agents. "Scalp lotion" is a better term than "hair tonic." Lotions applied to the skin have in general the same usefulness as those applied to the scalp.

We cannot foretell an individual's reaction to various products, and therefore, cannot name the least harmful of these products which will react alike on all persons.

First Pregnancies After Forty

To the Editor:—What risk is there for the older woman in her first pregnancy?

B. E., New York.

Answer.—Approximately 80 per cent of women give birth to their first babies between the ages of 15 and 35. Over half of these first babies are born to mothers aged 20 to 25. Only slightly over 2 per cent of the first born babies have mothers past the age of 35, and about a third of 1 per cent occur in mothers over 40 years of age. The risk to mothers is greatest with the first child and with the last of many children. The causes of maternal deaths are due to disorders which arise from the pregnancy and from those conditions which are coexistent with the pregnancy but are not caused by it. The factors causing and contributing to maternal deaths are manifold, but age itself does not seem to be an important factor. The risk due to age itself would be negligible, other factors being equal, if the health condition of the older woman were satisfactory prior to the pregnancy. There are many women over forty who have given birth to their first babies satisfactorily and without disproportionate risk. We believe, however, it is best for both mother and infant if the first pregnancy and also successive ones occur in women under forty years of age.

Muscle Growth

To the Editor:—Can muscles grow so large that they cannot become larger but only stronger; or do muscles increase in size as long as a person is able to develop them? Is it natural that a larger person should have thicker muscles than a smaller one?

J. K., New York.

Answer.—In general, the time during which the body grows and the size ultimately reached are determined by growth factors which are not too well understood. It has been shown that in the very early stages of development of certain lower forms of life there are chemical substances in the animal's body which stimulate or inhibit the growth of certain organs. We know that the pituitary gland has a secretion which determines the growth of the skeleton and hence the size of the body. It is probable that the size of each part of the body, muscles included, is determined in some such way, although we cannot fill in the details.

In addition to tendencies which are inherited and which keep the individuals of a species pretty much alike, smaller variations in the size of an organ may be brought about by use or disuse. This is most noticeable in the case of our muscles. A decrease in the size of a muscle may be observed whenever a limb is paralyzed or placed in splints so that it cannot be moved. On the other hand, continued exercise may greatly increase the size of a muscle. The blacksmith's arm has long been celebrated for its size. This growth takes place not by the growth of new muscle cells but by the enlargement of those already present. This growth, too, has its limits, and the time therefore comes when the muscle cannot further increase in size. It may grow stronger by training, but this development, too, reaches its limit as we grow older. There is a natural and definite relationship between the size of an individual and the size of his muscles.

Hyperopia

To the Editor:—Can a far-sighted person see distant objects more clearly than a person whose eyesight is normal?

J. M., New York.

Answer.—No. The so-called far-sighted eye is smaller than the normal eye and therefore parallel rays of light focus behind the sensitive screen (retina). For the far-sighted person to see far objects clearly it is necessary for the lens muscle to help in bringing the focus on the retina; the normal eye sees the distant object without any muscular effort. With this muscular action the far-sighted person may be able to see objects at a distance just as clearly, but certainly no clearer, than one whose eyesight is normal.

Learning to Read Braille

To the Editor:—How long does it takes for a blind person to learn to read Braille.

D. C., Oklahoma.

Answer.—The length of time required to learn Braille depends on the general intelligence of the student, his ability to apply himself and the keenness of his sense of touch. Some blind people learn to read Braille within a few days, but most Braille readers require months of instruction. The great majority of blind people find it practically impossible to learn to read Braille with any facility. This is why the "talking book" records for the blind were developed. A talking book is a book recorded on several large phonograph records, each of which contains a half hour of reading matter.

To the Editor:—What aromatic chemicals attract or repel serpents?

L. R., Illinois.

Answer.—Snakes appear to dislike foreign odors and we should certainly think that any aromatic chemical would repel them. We know of nothing of the sort that would attract them.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Thirty Days - -

—has September. Thirty days during which the gayety and abandonment of summer slowly fade into a memory, while the trees and sky become tinged with the russet burst of fall. . . . The face of the earth changes gradually and naturally, anticipating each season. So does the smart woman take inventory of herself and begin a heedful preparation for a change in mood, mode and makeup. . . . The flimsy fabrics and rainbow hues of a summer wardrobe will be replaced with silks and woolens of deep, vivid colorings like the autumn hills. Cosmetics thoughtfully selected and intelligently applied are an integral part of the season's glorious ensemble. Consistent complexion care augmented by appropriate makeup will contribute to the success of the new wardrobe and the new season.

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ALCOHOLISM (Continued from page 762)

order to produce a substitution of phantasy for every-day living.

It is serious to form the habit of using alcohol abnormally, instead of socially, but it is something that can be avoided. There are many danger signals and, if they are heeded, the calamity of abnormal drinking need never occur.

When a man begins to feel that he must habitually drink in the morning in order to recruit courage enough to get through the day, then he is in danger. Another time to stop and check yourself from the abnormal drinking angle, is if you find yourself taking a drink with regularity at intervals throughout the day. This is not so much a question of the amount of alcohol that is consumed, as it is of the fact that there seems to be almost an imperative demand, rising from within the individual to punctuate the routine of the day by a stated number of drinks.

Many abnormal drinkers are recruited from the ranks of normal, social drinkers. Therefore, any departure from the pleasant social ritual of drinking is to be viewed with suspicion. For instance, almost every man who drinks at all, occasionally takes a drink before lunch. However, when a man finds himself falling into the habit of having a drink before lunch every single day and feels that without it something necessary is lacking, then he is on the road to abnormal drinking. When a man finds his social drinking becoming less important and his solitary drinking becoming more important, he is in danger of becoming an abnormal drinker.

There is no absolute rule for the best and safest use of alcohol for each individual. But, if a safeguard is desired, review the history of your drinking from these four points:

1. In your judgment, and in the honest opinion of your friends, is your behavior under the influence of alcohol such that it would tend to let you believe that you are one of those who should not use alcohol?

2. Consider the history of your drinking. Is it at about the same level of moderate controlled drinking as it was in the beginning or has it increased and assumed dangerous proportions?

3. What do you gain by drinking? Is that gain something upon which you are dependent or could you manage your life satisfactorily without it?

4. Are you sure that you could stop drinking if you wanted to stop?

The real cause of alcoholism is not found either in inheritance or in a defective nervous system. From the analysis of case studies, it would seem logical to believe that the most significant causative factor is emotional immaturity, woven in childhood from the ingredients of loving parental domination. Later the child enters adult life totally unprepared to meet the give and take of social relations. Rebuffed and insecure, he soon finds in alcohol a surrogate for soft and unwise parental guidance.

The cure of alcoholism is really a by-product in the development of emotional maturity. The patient has been subjected by his family and friends to coddling, threatening, blaming and, occasionally, rewarding. He has been treated like a badly behaved child. Naturally he has never developed any grown-up responsibility. Now he encounters a situation which is willing to deal only with the mature segment in his personality. Decisions will not be made for the patient, not even decisions about alcohol. The patient wants to know whether he should keep liquor in the house, serve cocktails, go to his club or to the neighborhood tap-room to play darts. He is not as pleasantly surprised as he might have anticipated when he is told that about these, and other matters in his life, he must make his own decisions.

The alcoholic person, in the odd assortment of advice he has received, has been told to "forget" his painful and sordid alcoholic past. It is more important that he should never forget it. For curative measures it is extremely valuable to produce a conditioned thinking reflex in the patient. He learns that each time his mind is assailed by alcoholic thoughts and desires they should not be repressed, but should induce a review of the whole painful panorama of previous experiences following as an inevitable aftermath of taking a single drink.

It soon becomes clear to the patient that although non-alcoholic pacts and pledges are discouraged, nevertheless, there can be no recovery until there is an intelligent and mature decision that the future must be a non-alcoholic one. That this is the highest hurdle in the patient's psychologic reeducation is evidenced by the fact that very often just before the nonalcoholic adjustment has been made, the patient has dreams in which he is placed in social situations that make it impossible for him to decline a drink.

The reasons for abstaining from alcohol must be founded in mature intelligence and not in emotionalized reactions. It is extremely rare for an alcoholic person to get well for sentimental reasons. The tragedy of the miserable existence his wife has led for so many years, the unhappiness of his children and the deprivations which they must endure, the fact that his mother's few remaining years are saddened by the degradation of her only son are often given as "reasons" for breaking his habit. "For myself," the patient says, "I care not, but my loved ones must not suffer any longer." And he means it. His remorse is genuine. It is almost too genuine, since frequently it is drowned by a prolonged alcoholic debauch.

Although psychologic reeducation has been emphasized, it must not be inferred that the physical situation may be neglected. For an effective rehabilitation program there must be a thorough physical examination to ascertain the amount of organic damage caused by the misuse of alcohol, and a persistent effort should be made to bring the patient to his physical optimum.

BOOKS ON HEALTH

Social Psychology

By Charles Bird, Ph.D., Cloth. Price, $3.50. Pp. 554. New York: D. Appleton-Century Company, 1940.

Social psychology is an extremely interesting field of science that is only now coming into maturity. It deals primarily with the effect of one person's thinking processes on the behavior of others and such subjects as motivation, social incentives and measurement of social attitudes. In addition to these topics and several other conventional features of social psychology, there are chapters on propaganda, the behavior of crowds, leadership, the social significance of maturity, juvenile delinquency and the psychological aspects of war. This latter chapter deals largely with attitudes toward war several years ago in our own country, rather than with the thinking of persons actually in a war situation. All in all, the book is an excellent introductory text, thoroughly constructed, with innumerable references to good literature and should aid any one interested in social psychology to secure a grasp of the subject.

LOWELL S. SELLING, M.D.

Childcraft

The Quarrie Corporation. 14 volumes. Price, $42. Chicago.

It is easy to become enthusiastic about the "Childcraft" series, first introduced in 1923 as the "Child's Treasury," and now published each year as "Childcraft." The first six volumes are an anthology of famous poems, stories, legends, fairy tales and other literary material which, since the earliest times, have been found interesting to children. The later volumes of the series include articles by authorities on child development dealing with accepted procedures and technics. At the end of each of these chapters there are summaries, questions and reading references. The books have been carefully compiled and are fully illustrated in many colors, constituting a most attractive series.

Volume 6 is suitable for an introduction to history, since it provides the child with material covering various holidays and festivals, as well as biographic material on important characters in history, in literature and in the Bible.

Volume 7 contains contributions from a number of medical and educational authorities. Consideration is given food and nutrition, care of the baby, sex development in the child and safety in the home. The material is practical and particularly useful to the parent.

Volume 8 again is concerned with guidance and development. Of special interest in this volume is the chapter on children and motion pictures. The views on discipline are modern. Many parents who feel that respect is shown by blind, unreasoning fear on the part of children will find a different type of respect that is far more important in the development of the child.

Especially helpful is Volume 12, which is essentially a guide and an index which will teach the parent how to use the previous volumes to greatest advantage in the education and rearing of children of different ages. This volume is supplemented by psychologic test material, tables of height and weight, a good bibliography and an extensive index.

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BARBARA FISHBEIN FRIEDELL.

Getting More Out of Life

By Joseph Jastrow, Ph.D., LL.D. Cloth. Price, $2. Pp. 312. New York: Emerson Books, Inc., 1940.

Joseph Jastrow is a prolific and fluent writer. He has written many books expounding and elucidating various psychological theories and is one of the earliest experimental psychologists in this country. The book here considered is directed primarily toward effecting a useful balance in everyday living. There are five major chapters. The first interprets what one's endowment really is; the second gives some suggestions as to the employment of various mental faculties; the third is a condemnation of loose thinking with particular reference to cults and quackery; the fourth contains some suggestions which would enable the reader to deal with problems such as the "tired feeling," inferiority complexes, hysteria and others, and the fifth is a discussion of minor psychological problems. The book is entertainingly written, and although fragmentary and not very systematic, the factual material is not open to much criticism. However, books of this sort seldom cure people with mental problems.

L. S. S.

The Child in the Home

By Leila Wall Hunt. Cloth. Price, $2.50. Pp. 259. New York: Prentice-Hall, Inc., 1940.

This is an excellent book intended for classes in child care and development in colleges and universities. It is an ideal single volume text and reference book.

The author limits her volume to the physical development of the child, bringing in the mental and social training only so far as is necessary where the three divisions overlap.

The chapter on education for parenthood is excellent and will do much to convince the laggard father that he has a real place in the upbringing of his child.

At the end of each chapter the author has a well planned and adequate bibliography. The appendix gives sample menus to illustrate the various types of diets needed for each age, and also for the pregnant mother and the nursing mother.

Not only will university classes welcome this book, but every parent who takes the job of parenthood seriously will find it a must on his book list. Parent study groups, workers in health education and nurses will also receive a real benefit from reading this informative volume. PAUL A. TESCHNER, M.D.

The Conservation of Intelligence

By Theodore R. Robie, M.D. Paper. Price, 10 cents. Pp. 25. Montclair, N. J.: The author, 1940.

This planographed pamphlet consists of material developed in mental hygiene clinics in the state of New York and in Essex County, New Jersey. The pamphlet is a plea for compulsory sterilization of the unfit. It presents opinions from educators, sociologists and physicians, plus statistical data supporting the argument that the feebleminded should be sterilized in the interests of the race and of the nation. The pamphlet contains a card by means of which readers are invited to enroll as members of the Sterilization League of New Jersey. Since the publication is frankly an argument in favor of sterilization, it quite naturally presents no arguments to the contrary.

W. W. BAUER, M.D.

Manual for Diabetic Patients

By W. D. Sansum, M.D. with Alfred E. Koehler, M.D., Ph.D., and Ruth Bowden, B.S. Cloth. Price, $3.25. Pp. 227. New York: The Macmillan Company, 1939.

This manual for diabetic patients contains two principal parts and an appendix. In the first part the authors discuss the history and nature of diabetes and its relation to food utilization, the diagnosis, aims of treatment and dietary treatment of diabetes; the place of insulin, and other factors in the life of the

diabetic patient. Acid base balance, acidosis and coma and the distinctions between insulin shock and coma are explained. The complications of diabetes are discussed. Surgery in the diabetic and pregnancy in the diabetic are explained. The patient is taught how to do laboratory tests on urine.

In Part II there are chapters on the sources of food substances; the weighing and measuring of foods, the composition and caloric value of foods; the arrangement of the diet; substitutions which help to bring variety in the diet; menu planning, and a large number of recipes.

In the appendix are food tables, weight tables, a list of supplies for the diabetic and a blank on which the patient can make a monthly report to his doctor. A glossary of terms employed in the book and an index complete the volume.

In this book the diabetic will find all the information he requires in addition to the advice given him by his physician. The presentation is sometimes a trifle lengthy and some material is included which is of little value to the patient, particularly the somewhat controversial section on diets high in carbohydrates versus diets high in fat.

There are good illustrations, especially the ones showing the technic of insulin injection and the color chart of urine tests. This book should be useful and helpful to the diabetic. It would be more useful if in subsequent editions, it were condensed and issued at a somewhat lower price. W. W. B.

Food Values at a Glance

By Violet G. Plimmer. Cloth. Price, $2. Pp. 190. Second Edition. London, New York, Toronto: Longmans, Green and Company, 1940.

The title apparently refers to the liberal use of charts, graphs and other illustrative material, rather than to conventional tables of data. Such methods of presenting data are not new but are always valuable, particularly for the beginner. In this country the foremost exponent of the graphic method of presenting facts about the composition of foods is Dr. Mary Swartz Rose of Columbia University. The device used by Mrs. Plimmer differs somewhat from that used by others, but it should be equally effective. However, it will take more than a "glance" to get the substance from the charts, and it would be well if the material could be studied thoroughly by every educated person. The discussion in the text takes up such questions as the purposes of food, the nature of a complete diet, vitamins and the effects of vitamin underfeeding, the quantity of food required, and so on. There is a chapter on a "square meal," with an explanation of what to look for in foods. The book contains an unexplained allusion to an "American Fashion" which invaded England and which apparently consisted of splitting the day's food into protein meals and carbohydrate meals. The author rightfully points out that this dictum has no basis in fact; indeed, it would be impossible to follow. Milk, for example, contains about 3 per cent protein and 5 per cent carbohydrate, and yet milk is rightfully regarded as the most nearly perfect food.

The book contains many items of interest, and the discussion of "Food Supply in Time of War," beginning on page 107, seems to be particularly pertinent at the present time. The author points out that home production of food in Great Britain is really a minus quantity because it requires more than one ton of feeding stuffs (food for animals) and fertilizers (food for the soil) to produce each ton of home-grown food for human consumption. The so-called home produce in England appears to be an artifact of subsidies and imported nutriments for soil and livestock. Sentiment and tradition makes the British people cling to farming, even as an unprofitable and expensive hobby which they cannot afford. The reduction in numbers of live stock sets free much cereal for human consumption. It also releases pasturage for the plow and the growing of crops for human food purposes.

FRANKLIN C. BING, Ph.D.

How to Help Your Hearing

By Louise M. Neuschutz. Cloth. Price, $2.50. Pages, 179. New York: Harper and Brothers, 1940.

As stated on the cover, "this is a practical and encouraging guide to all upon whom deafness has come, showing them in detail how to cope with their condition." The author has been deaf for many years.

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(Continued on page 847)

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"My Mother Is a Liar"

By MARJORIE HOLMES MIGHELL

"MOTHER is a liar," a ten year old girl told me dispassionately the other day. "You can't believe anything she says."

The incident behind this shocking statement was simple enough. Nancy's pretty mother had been apologizing for not having taken Nancy to the previous rehearsal of a radio show. "I had promised her a new dress," she assured me, "and that was the only time we could go shopping. I'm so sorry we had to be late today. We got tied up in traffic. You can depend on us hereafter."

And now the grave-eyed, talented child was informing me privately, "We didn't go shopping last week at all. Mother was entertaining her club and wanted me to help."

"But that's a good excuse," I countered, wondering why even I had resorted to a subterfuge.

"I suppose so," Nancy said doubtfully, "but then Mother can always think of something a little better than the truth. She promised me the dress, but that was a couple of weeks ago, and then she forgot all about it. There wasn't much traffic today, either; we just started late. What I mean is I think I'd better drop out of the cast."

This last outburst explained why she was telling me these surprising things. Her ten years of life had apparently been filled with broken promises, white lies and fabricated excuses. She was astute enough to know that "you can depend on us hereafter" was but another meaningless expression, to be backed by no sincere effort. And so a child's opportunity for self expression was lost. But even more disastrous, lost was the faith of a daughter. All because of a chain of "harmless" little lies of which the parent herself was probably totally unaware.

Therein lies the danger. A habit begun beside the high chair with the excuse "All gone" as the half-full cracker box is set back on the shelf, instead of, "You've had enough today, young man," is an invisible plant that roots easily and grows to astonishing proportions.

A child's serene acceptance of the word of his mother should be a challenge to us never to betray that rare confidence. Unfortunately, the tendency is to reason instead: "Oh, he doesn't know the difference! I'm busy; perhaps when he's older—"

By the time he is older, however, the habit is so firmly fixed that we are scarcely aware of it. It has become easier to fabricate than to tell the cleancut truth. And even on those occasions when the truth would be easier, the habit has such a stranglehold that it drives us around the issue in a laborious and circuitous route. To illustrate, a friend of mine had decided to keep both her little girls home from school to attend the birthday party of a younger child. Nothing drastic would have happened had she written their teacher a note stating the real reason for their absence. She reported, however, that they were ill. She even took them into the conspiracy and put them to bed for an hour, so that they wouldn't be frisking about when the teacher went by. Later the truth leaked out, as even trivial truth has a way of doing. But rather than admit the truth, she announced absurdly, within earshot of the children: "This wasn't just an ordinary party, but a club we belong to. It meets once a year and every member of the family must attend." Yet I have seen this mother punish her children for telling a falsehood! "If there is one thing I will not have," she says, "it is storying!"

If these examples seem extreme, think for a minute. Does this sound familiar? "Good night, dear. Yes, Mother will be right here. No, of course I'm not going anywhere. Mother is wearing the pretty dress because—well she—" hastily, because the crowd is waiting, "tore a hole in the one she had on. Yes, on a nail, dear. Now go to sleep!" The motive of the moment is to build up confidence, so that Mother can escape without fireworks. If the child becomes obstreperous, that's the maid's problem. Quieting a youngster when he wakens and suspiciously demands the parent who has tricked him is no easy assignment. But restoring shattered confidence is an even larger task, one that is well nigh impossible if the strategy of subterfuge is repeated.

We began early, informing our little girl: "Mother and Daddy are going out this evening. Betty is

coming to stay with you. Won't that be fun? If you like, I'll have her come early enough to read you a story instead of Mother," implying that this will be a special treat, since she is fond of Betty. It is important that the child know and like the person who is to be in charge. We then tell her where we plan to go, and at some time during the day I call her in to inspect the dress I am to wear. Never yet have we set out for an evening engagement with screams of protest for a farewell; never have we had to sneak out the back door, burdened with the fear of grief to come. Rather, our child dismisses us for our infrequent jaunts with, "Have a nice time!"

There are several prevarications commonly practiced on children; practiced without any qualms of adult conscience, although the results are often vicious. Of how many of these are you guilty?

Promises you may not be able to keep: Do you remember those satin-lined, leather manicure rolls filled with dozens of ornate and useless instruments? The one I coveted at nine was pink and green. It was to be mine if I won a certain speaking contest. The agreement was not "if you win and Father's work is good and Brother doesn't need a new suit"; only "if you win." I practiced constantly and won the contest. But not the prize. Things kept interfering; some one else bought that particular manicure set, and my desire for it faded. But not the memory. Thereafter I was skeptical.

In our own home the policy in this respect is to weigh the matter carefully before answering a plea for a new bike, for instance. Does the insurance fall due this month? Are we likely to recall, almost within shadow of the store, that a neighbor's child broke her arm on a bike? Do we think that our daughter shouldn't have one? In short, what are the odds against keeping the promise if we make it? Say, "Let me think it over." Then, if the final answer is no, explain why. If yes, qualify the affirmation with an explanation that some unforseen event may curtail the fulfillment of the request. A qualified promise with a fair chance of fulfillment is safer than an unqualified one that might not materialize.

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Threats you have no intention of carrying out: "If you're not a good boy, we'll send the train back to Santa Claus" is a familiar formula. We won't do that, of course, because there isn't any Santa Claus; and if there were, we would scarcely relinquish an expensive apparatus merely to enforce obedience. After his first terrors subside and he has further experimented with pulling the cat's tail and teasing his sister, he comes to realize that threats mean nothing in his young life, and the first subtle loss of faith in the word of authority sets in.

Ownership that isn't ownership at all: As a lad on the farm Jim was told one year that he was the owner of each new calf, colt and litter of pigs. He named them, took pride in caring for them and believed them utterly his own, until the day they were ready for market. Then, to his consternation, "his" stock was loaded up and hauled off without so much as asking his permission or guaranteeing him a share of the proceeds. "It was just a scheme to get me to help with chores," he said. "When I realized what had happened, I was so furious that I 'stole' one of Dad's hogs and sold it. Naturally I was caught, and Dad was horrified at my 'dishonesty!'" One or two pets completely owned, several owned in partnership, or none at all, would have been preferable to a poorly disguised swindle.

It is frequently necessary to make one toy do for two children, but it isn't fair to present it to one and then ignore his rights as proprietor. It isn't fair for Dad to appropriate Bill's ball and glove without consent when he and a friend decide to play catch. It isn't fair to sell Jean's dog and pocket the money when the family moves. It isn't fair or right to impose upon a child just because he is a child!

Myths and fancies: If children enjoy believing in Santa Claus, the Easter Bunny, even the man in the moon, why not let them? Why not, indeed? But why not lay the groundwork for the inevitable exposure as we proceed? The shock of discovering that a cherished source of delight has been only a hoax can be an agonizing experience. Few children harbor lasting grudges because of parental collusion in fantasy, but I know of

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"But isn't Santa *real?*"

"As real as love and happiness. But makebelieve too. Like fairies."

This may seem garbled; actually it isn't at all. Our daughter has missed none of the ecstasy of believing despite these answers.

Bogey tales: The wolf, little dwarfs with red eyes and other conjured abnormalities to terrify little children into minding have been pretty much consigned to the Dark Ages, but occasionally such heinous weapons are wielded by an otherwise intelligent parent. Lasting phobias, warped personalities and hours of self torture may result from such tactics.

Soothing "don't worry" lies: In contrast, many parents anxious to protect their children from needless fears, minimize certain things in which there are elements of danger. You may alleviate Junior's fear of dogs by informing him cheerfully that dogs are his friends. He may believe you, until he meets a dog with a touchy disposition. How much safer to add a word of warning!

In an era of kidnappings and frequent crimes against children it is stupid to preach a doctrine of human perfection. "Are there bad men in the world?" can be answered only by, "Yes, a few. Most men are good like Father, but there are some who wouldn't be nice to you. That's why you must never take candy or money from people you don't know and never go away with any one without first coming to us for permission." Unemotionally, but so frequently as never to be forgotten, this warning should be sounded.

Halftruths: A woman who thinks herself dashingly modern because she has finally told her children that babies come from the hospital instead of from the rose garden, was questioned by a grade school daughter concerning menstruation. "And are women sick every month all their lives?" "Yes," the mother replied casually. In justifying to me her half truth she said, "I didn't think it necessary to discuss the change of life then." Yet it would have taken so few words to complete the truth: "No, only from twelve or thirteen until middle age, during the child-bearing years." The truth is usually no more complicated than an evasion; it need be couched in no more elaborate terms. Why then avoid it, as if it were as involved as a problem in trigonometry?

And the strange thing about truth is that it does pay; honesty is the best policy always in dealing with children! You can't feed them on delusions and expect to equip them to face life's realities. You can't lie to them for eighteen or twenty years without their learning to lie as glibly to you.

Make your approach to your child The truth and nothing but the truth.

THE EYES AND GLANDULAR DEFICIENCY

The finding of a certain abnormality of the eyes may lead to a correct diagnosis of glandular deficiency, Hunter H. Turner, Pittsburgh, Pa., contends in the Pennsylvania Medical Journal.

In examining a young woman who complained of headaches, eyestrain and general nervousness the author noticed a shallowness of the anterior chambers of the eyes, he says. After the patient had taken glandular treatment to relieve these symptoms, another examination showed that the anterior chambers had deepened very definitely. Since that time the author has observed shallowness of the anterior chambers in at least seventy-five patients with glandular deficiencies, he reports. He believes, therefore, that "the depth of the anterior chamber in these cases is a definite indicator of the need for and the effectiveness of glandular therapy, and should be used as a gauge in the general treatment of the underlying cause."

I'M PREPARED

By M. M. POWELL

RIGHT NOW the most important thing in our world is that baby we are expecting in May. When Ethel, my wife, followed her doctor's advice and joined a class organized for expectant mothers by the Cleveland Child Health Association, I was not surprised. But, when she handed me an announcement outlining a course for expectant fathers, and said nothing—I knew what she meant, and I squirmed a little.

Courses for expectant mothers were one thing. But courses for expectant fathers! Didn't I, the bread-winner, have enough to worry about without—

Ethel maintained the silence, her most effective weapon and she knows it! I had stopped talking, too, for my eyes were skimming the announcement.

"AS AN EXPECTANT FATHER, DO YOU KNOW

That you have a part in making maternity safe for your wife and baby?

Why proper prenatal care is so important?

That pregnancy will have a psychological effect on your wife?

That discomforts of pregnancy may be influenced by improper diet?

That both physical and mental health are important in prenatal care?"

Of course, I thought. There were other questions, equally challenging, but I'm a skipper, by habit, so I turned the page.

"PREPARED PARENTS"

I couldn't quibble with that heading. What followed was logical:

"Be more than a 'Proud Papa.' Before your baby comes learn all you can about its development. Rearing children is a joint affair. Take time to learn how a father can help.

"In business you would not start out on a new venture without learning all you could about it ahead of time. Surely you want to do as much for your child."

Ethel seemed unconcerned, but she had me pinned with the corner of her eye. My face reflects perfectly what turn my mind is taking, so Ethel took advantage of the moment.

"There are only four lectures."

"Lectures?"

She was right.

"Two lectures will be given by a physician to help clarify the 'Puzzlers' connected with pregnancy, and two lectures will be given by a nurse."

Farther on, I read a more specific description.

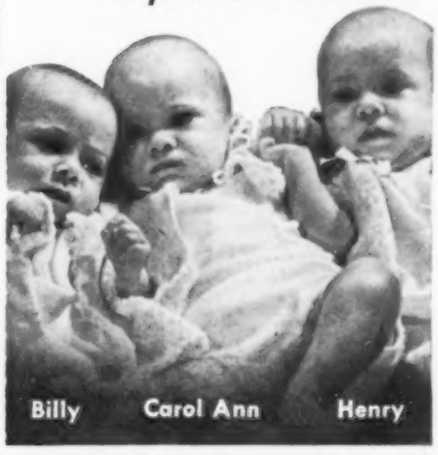
"Lecture 1: Physiology of Pregnancy"

Physiology of pregnancy! Until I read those words it hadn't occurred to me that there was such a study. Physiology to me had meant learning the names of the bones of the body and tracing the circulatory system, with perhaps a few additional embellishments. And that had not enlightened me on the most important physiological facts in the universe.

"Lecture 2: The Child Is Born"

New Quick **LUX** is so **SAFE** for the triplets' things!

says Mrs. Frank Roos



"So **fast** and **thrifty**, too!"

"My triplets have such tender skin, I have to be extra careful about washing their things — especially their woolies," says the mother of these New Jersey triplets. "Strong soaps or rubbing with cake soap might shrink woolens, leave them scratchy. That's why I play safe with Lux.

"I know it's gentle—*safe* for everything that touches the babies' skins. New, quick Lux is remarkably *fast* and it gives such a *lot of rich suds*, it's a real economy, too."

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. . . contains extract of capsicum (2.34%) in a base of acetone nail lacquer and isopropyl alcohol. Applied like nail polish.

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What a relief it will be, I thought, when I can say that. But, almost simultaneously, I noticed that this lecture would cover common diseases of infancy and "keeping baby well."

I sighed. Relief? Maybe not. Perhaps I'd rather not know. It all began to sound depressing.

Ethel sensed the change in mood.

"The talks won't be too technical. Just the high spots, the practical things that you really would like to know. The doctor promised that."

The doctor, who as director of the Cleveland Child Health Association supervises this course in "Fathercraft," kept his word.

I enrolled with the East side group of more than fifty men, and another class of equal size was meeting on the other side of the city.

Almost to a man, we were expecting our first baby. We all appeared typically 'middle-class,' and equally serious about this one all-important experience, now the common concern of all.

It was comforting to learn that Cleveland fathers weren't the only ones attending Expectant Parent classes. Men have a way, Ethel tells me, of shying from the unusual or different. Anyway, I felt more at ease when I learned that New York City, through the Maternity Center Association, has had classes since 1937. Father's Councils have been conducted, too, by the New Haven, Conn. Board of Health for two years and Flint, Mich., with both morning and night classes established last year reports a total attendance of more than 500 for a similar series.

Cleveland, however, thinks of itself as a pioneer in husband training, as in other prenatal instruction. First tried out in 1933, the idea brought out prospective fathers in large numbers, but interest dwindled because of a too lengthy and over technical course.

When reorganized in 1939, the first class met at the Academy of Medicine with the cooperation of the doctors themselves. Academy approval and interest has since proven to be of great value.

Classes for expectant fathers are offered in February, June and October. More than 300 men have attended each year, and when greater facilities are available, the association anticipates no trouble in filling more classes.

Lectures three and four dealt with the psychological aspects of the subject. Model husbands, we learned, keep calm when prospective mothers' nerves go haywire. They belittle the neighborhood gossip and laugh off the routine superstitions that invariably reach the expectant mother's ears.

They become good listeners, good companions. They even adapt their diets to that suggested for their wives. Occasionally, too, they pass up a golf game for recreation in which the expectant mother can participate.

Question periods followed all four lectures.

"Can a mother mark her baby?"

"Can any one predetermine the sex of the baby?"

"What about the wife who is employed and wishes to retain her position?"

"What of smoking and drinking during pregnancy?"

"Is hospital or home care safer?"

"What about travel during the time the child is being carried?"

"How much influence will heredity have on the child?"

(For answers see page 807)

At the end of the four evening meetings we were given, of all things, Certificates of Completion.

I noticed that my fellow classmates, like myself, smiled self-consciously when the certificates were distributed, but nevertheless put them quite carefully in their inside coat pockets. I don't know what the other Prepared Papas did with theirs, but mine is back in that far corner of my dresser drawer where things go that I want to keep.

Ethel suggested that we frame it. Of course, I assumed indifference. However, when May comes and that nursery we're fitting out is occupied, I wouldn't be surprised to see my framed certificate hanging jauntily beside the Jack and Jill placque we're planning to put on the nursery wall.

From four lectures and a certificate, even Ethel can't expect too much. The point is, however, that I've heard about things that I should know. What I've heard will undoubtedly help Ethel and that infant we're getting ready to receive.

But for any expectant father it's a step in the right direction, for every man basically wants to be an understanding husband and a good father.

TO SLEEP OR NOT TO SLEEP

(Continued from page 787)

climatic influences on sleep showed that movement during sleep varied directly with the temperature. Spring and summer provide the best conditions for sleeping with a reasonable amount of movement, and it was found that the sleep pattern for one individual is fairly constant throughout the year.

Most people sleep enough if they have the opportunity and favorable conditions. Sleeping time should be judged by efficiency, rather than by the number of hours spent in sleep. Insufficient sleep results in a reduction of muscular and mental efficiency. Often the actual time spent in wakefulness is less than it seems to be, because the sleep is light. There is not much difference between rest lying down in a darkened room and actual sleep. The efficiency of such rest is noted especially in eye muscle performance.

Sometimes children are wakeful at night and sleepy during the day, but since it is necessary for them to fit into the adult schedule, they may be kept awake by physical exercise until the normal sleep-wakefulness rhythm is established. Most persons find that they need less sleep as they grow older, but this is by no means insomnia. Inability to sleep often results from infected tonsils or adenoids, constipation or glandular deficiencies.

Nightmares are commonly caused by indigestion, but may be due to circulatory disturbances as well as other factors. Normal sleep has been the subject of many theories and explanations, but no theory explains all the abnormalities of sleep and wakefulness. The state of wakefulness is maintained by brain activity, and as the child grows older, the type of wakefulness changes from one of necessity to one of choice. Each person has a maximum number of hours for maintaining wakefulness by choice, and for peak efficiency, he should maintain a daily schedule within the limits of this maximum. Probably no danger results in shortening the wakefulness phase, but undersleeping will result in decreased efficiency and greater drowsiness during the regular period of wakefulness, thus defeating the purpose for which the maximum has been exceeded.

The most favorable circumstances for producing sleep are previous physical activity, freedom from pain, absence of light and noise, a regulated temperature, a relaxed posture and a peaceful mind.

Wakefulness and efficiency are best maintained when the sleep-wakefulness cycle is well established; when it conforms as much as possible to natural tendencies.

CONTROLLING INFECTIONS OF SURFACE ULCERS

Zinc peroxide controlled the foul odor, profuse discharge and pain associated with dead tissue resulting from cancer and chronic ulcer of the surface tissues, Bromley Freeman, Hines, Ill., reports in *The Journal* of the American Medical Association.

Usually the secondary infecting agents in such conditions were found by the author to be the types of bacteria which thrive best without air. Zinc peroxide dressings disinfect and deodorize these lesions, which because of their decaying character are excellent sites for bacterial growth. Zinc peroxide has the property of liberating oxygen, which kills the organisms.

The writer used zinc peroxide dressings in thirty-five cases of chronic ulcers with or without cancer and he says that after two weeks of treatment cultures of the material from the lesions showed little or no bacterial growth.

ARSENIC POISONING

Improvement of neuritis (nerve inflammation) which followed the taking of an arsenic rat poison was maintained by daily injections of vitamin B_6 and alphatocopherol, a component of vitamin E, R. W. Vilter, C. D. Aring and T. D. Spies, Cincinnati, report in *The Journal* of the American Medical Association.

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"A WAY in the WILDERNESS"

Dr. Goldberger gives the stricken share-croppers health-giving nutrients to help prevent pellagra.

ABOVE: He examines a patient for a disease which breaks human spirits, drains strength, causes insanity and, unless treated, usually causes death.

RIGHT: After proving to himself that pellagra was caused by a dietary deficiency, he injected a pellagra patient's blood into himself and his wife to demonstrate that this disease was not produced by bacterial infections.

This story, a John Nesbitt Passing Parade for Metro-Goldwyn-Mayer, presents the trials and tribulations of Dr. Joseph Goldberger, a physician who found the causes and the cure for the dread pellagra disease.

The story of Goldberger begins forty years ago, at a time when a strange new sickness crept across the land. It touched black and white alike, broke human spirits, drained human strength, drove people insane and caused death. Yet, there was not even a sign of a cure. This sickness, which they called pellagra, spread like a plague. Physicians and scientists worked looking for a pellagra germ, and still, up to 1912, there was no solution.

In 1914, a stranger arrived in the South, sent by the United States Public Health Service, expressly to find cause and cure. This was Dr. Joseph Goldberger.

Unlike other scientists who start their battle in the laboratory, Goldberger started on the land, among the people, watching their work, studying their physical ailments. He discovered that there was little pellagra among the wealthy or even the moderately well off. Pellagra was most prevalent among the

sharecroppers, the poverty-stricken. In two county orphanages where conditions might be supposed to be above average, there was much pellagra. Investigation showed that addition of milk, meat and vegetables to the diet in place of the regular sharecroppers' diet of hominy, grits, cornbread, molasses and potatoes caused great improvement.

Goldberger thus came to the conclusion that food and pellagra were associated. Germs had nothing to do with the disease. Doctors laughed at him, but Goldberger stuck to his theory.

Reversing the procedure, Goldberger chose eleven convicts who would be given only grits, hominy, cornbread, and potatoes for six months. By the end of the six months the telltale rash mark of the disease appeared on at least six of the prisoners. Goldberger thought this was proof of his theory, but again he was laughed at. Doctors were adamant in their belief that pellagra was caused by germs, not the absence of foods.

There was one other way in which Goldberger sought to prove his theory. If germs caused the disease then they should be present in the blood. All attempts, however, to give persons pellagra by inoculations of blood or saliva from severe cases of pellagra failed completely.

Continuing work, forgetting his own rest, Goldberger died in 1929, happy within himself that he was leaving his country a priceless legacy; a knowledge of the causes and cure for pellagra.

Since Goldberger's time and especially in the last three years, much progress has been made in understanding and treating pellagra. It has been definitely shown to be a deficiency disease even as Goldberger thought. The isolation of a specific product which has been called nicotinic acid and which has been recognized to be a constituent of what has been formerly called vitamin B has proved especially important. The administration of this substance has been found to relieve most of the symptoms of pellagra in a very short time. Its effectiveness in pellagra is greatly enhanced by another vitamin B constituent which has been identified and named riboflavin. These two substances together completely prevent pellagra and effect a cure even when the disease is seriously advanced.

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Suggested School Health Policies

Educational authorities, doctors who specialize in diseases of children, specialists from other sections of the American Medical Association, public health authorities and other groups are combining to study the policies for health in our schools. They are trying to outline what the schools should and should not do in the field of health. This is a matter that concerns not only the educators and the physicians and the health authorities but also every parent whose child attends a school. The matter is, moreover, one to which civic clubs, boards of education and similar groups may well give their attention.

Unquestionably, instruction in health is a responsibility of the education program. School physicians and school nurses are employed in some communities by the department of education and in others by the department of health. Therefore, both these departments may be concerned in the development of a suitable program of health. Naturally specific tasks will be assigned to teachers and other tasks to the medical employees that have been mentioned.

In order to get the points of view of all of those interested, a statement on school health policies has been developed by representatives of a number of organizations in the fields concerned. HYGEIA is offering this statement to its readers for their criticisms and comments. Send your suggestions addressed to School Health Program, care of HYGEIA, the Health Magazine, 535 N. Dearborn Street, Chicago.

Here are eight specific points which it is felt should be included in every school health program.

1. Provide A HEALTHFUL ENVIRONMENT, including attention to the arrangement of the school program and the social and emotional tone of the classroom as well as attention to school sanitation.

2. Have a planned program for THE CARE OF ACCIDENTS occurring at school and for SUDDEN SICKNESS.

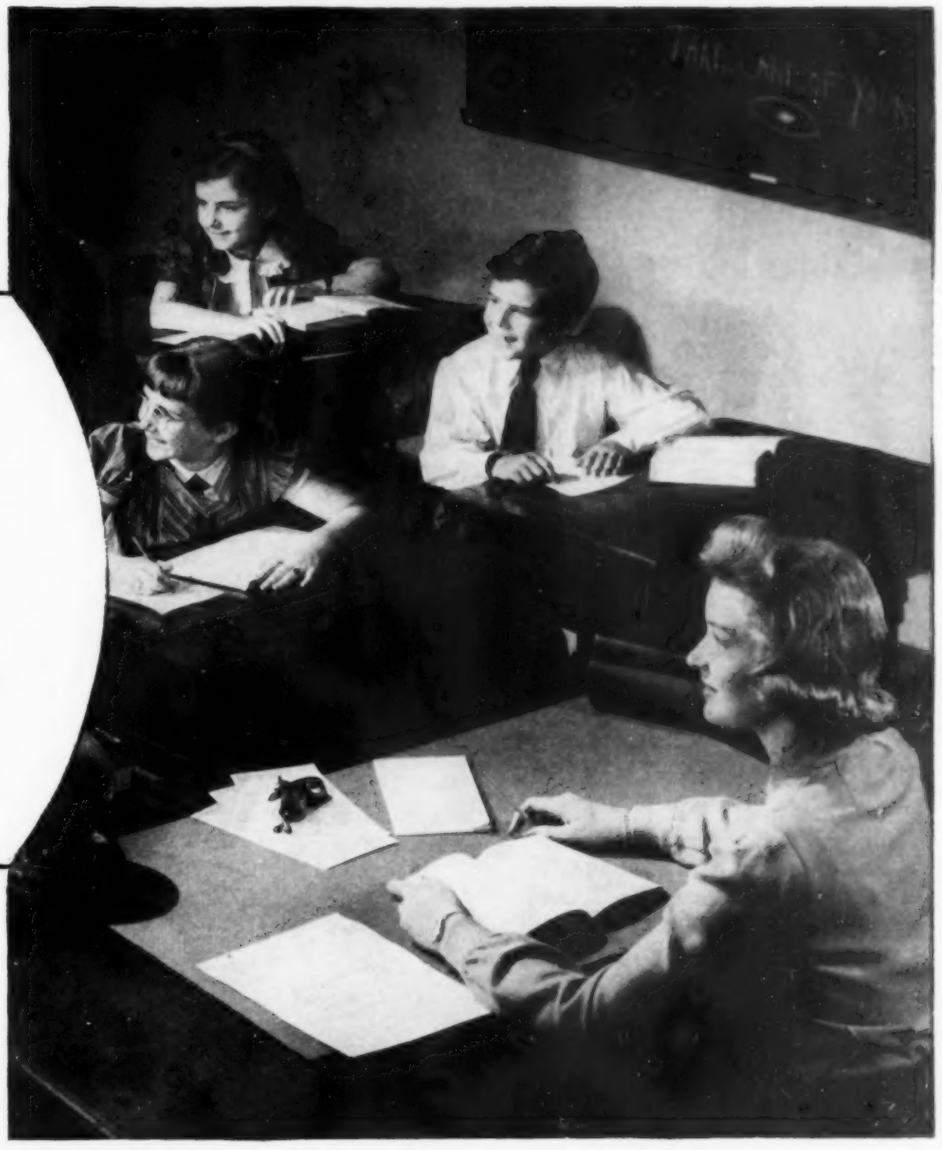
3. Have a planned program to assist the community program for the PREVENTION and CONTROL of COMMUNICABLE DISEASE.

4. Provide a planned, graded PROGRAM OF HEALTH INSTRUCTION giving opportunities for experiences through which pupils will develop skill in healthful living and accumulate scientific knowledge relating to the acquirement and improvement of health, causes of certain diseases, the way diseases spread and known methods of prevention.

5. Encourage PERIODIC HEALTH EXAMINATIONS; develop a plan whereby such examinations will be obtained, and keep a cumulative record of the findings and recommendations.

6. Give SPECIAL ATTENTION TO THOSE IN NEED OF MEDICAL OR DENTAL CARE through a follow-up program which will, where necessary, guide pupils and parents to sources of medical and dental treatment.

7. Provide SPECIAL EDUCATION PROGRAMS for handicapped pupils, either by adapting the program of the regular class to individual pupil



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needs or by providing special classes or special schools.

8. Provide SUPERVISION AND IN-SERVICE TRAINING FOR TEACHERS and place specific responsibility in the hands of some person especially qualified in education and in school health work for coordinating all school health activities and for relating these to the community health program.

1. A HEALTHFUL ENVIRONMENT

The first point in the school health program is environment or the conditions and surroundings in which the pupil spends his time in school. Most important in the field of environment is sanitation. Once upon a time this involved merely cleanliness and the avoidance of contagion. Now it includes adequate lighting, healthful and comfortable heating, proper ventilation, a continuous supply of towels and soap, adequate toilet and washing facilities, provisions for safety and the prevention of fire, areas for play, enough drinking fountains, seating which prevents fatigue and encourages good posture, and a schoolroom which is clean and attractive. It is not enough merely to provide these facilities. Pupils must be taught to respect them and to use them properly. Indeed, such teaching will be useful in helping the pupil to learn ideals in the field of sanitation. The committee which considered these projects felt that schools ought to plan for a detailed observation of the sanitary features of each school building at least once each year. Written reports of such studies could be filed with the principal as well as with the superintendent of schools. The inspection can be made by the doctor, the school nurse, the health officer or the sanitary inspector. In large cities the superintendent of buildings will probably have to participate in the inspection.

A healthful environment requires more than attention to sanitation; it demands consideration of the school program and of pupils' mental and social environment. Methods of teaching, methods of disciplining, types of examinations, methods of promotion, amount of homework, the curriculum pattern and opportunities for pupil expression are all factors which influence the physical and mental health of pupils.

The school program should be arranged to prevent undue fatigue; there should be plenty of opportunity for activity, and periods of comparatively little activity should be interspersed with those of considerable activity. The program should allow for recess, relaxation and play periods, the frequency and length of which will be governed by changing needs of pupils as they progress from one school level to another. Excessive demands on pupils' strength and energy for either curricular or extracurricular activities are to be avoided.

In considering the arrangement of the school program in relation to health, particular attention should be given to the provision of adequate time for lunch, especially in those schools which require or permit pupils to eat at school. The lunch period should be long enough to permit the leisurely eating of food and the normal social intercourse, which is a natural accompaniment of eating. The lunch room should be ample in size to avoid crowding; it should be clean, quiet, light and attractive in decoration. A hurried, strained, tense lunch period in a dark, crowded, noisy, unattractive room is as undesirable for teachers as it is for pupils. In addition to providing adequate time and suitable facilities, schools should consider the lunch period a laboratory in which pupils apply the knowledge of foods learned in the classroom. Observation of pupil lunches will tell whether health instruction in this field has been practical, adequate and successful or merely a learning of words and concepts not associated with actual living.

The mental health of pupils requires that teaching methods give ample opportunity for experiencing success, that disciplinary measures consider pupil personality of greater importance than the rigid application of arbitrary rules and that types of examinations and methods of promotion do not discourage or degrade but stimulate each pupil to do the best he can. Perhaps the most important mental hygiene factor in the school environment is the personality of the teacher. The nagging, scolding, domineering or emotionally unstable individual can seriously injure pupils; the teacher who is kind but firm, sympathetic but exacting, and friendly but reserved exerts a beneficial influence on pupils' mental health.

A healthful environment requires attention to sanitation, attention to the arrangement of the school program, the mental hygiene of the classroom and also to the physical health of teachers, custodians, matrons and secretaries. The health of children is not safeguarded when we exclude pupils who are sick but allow a sick teacher, custodian or secretary to remain in school. These people all have more or less close contact with pupils and may cause the spread of communicable disease. For this reason, and because successful teaching is based on teachers' continued good health and because of the value of the example of healthy teachers, a number of schools now require a health examination, including such tests as the tuberculin test and x-ray examination, of all school employees previous to their employment and periodically thereafter. Such a program constitutes sound school policy, and it is recommended that school authorities develop suitable ways for carrying out this policy. It is also recommended that principals assume responsibility for sending from school a teacher or other em-

ployee whose health condition may be detrimental to pupils or fellow employees.

Boards of education have responsibilities for the health of teachers, custodians and school secretaries in addition to those mentioned above. Teaching and working places must be sanitary and safe. Provision for sick leave is needed. Peace of mind is encouraged by provisions for tenure and retirement. Suitable rest rooms are needed in school buildings and teaching and working loads must be reasonable. Boards of education must treat and judge employees and applicants on the basis of ability, with no favoritism or prejudice because of color, creed, friendship or race. By acting with other motives, a board of education may disturb the morale of its entire school staff and seriously interfere with the education of children.

2. CARE OF ACCIDENTS AND SUDDEN SICKNESS

Wherever large numbers of children are gathered, there are bound to be accidents. In particular, falls, cuts, bruises and sprains occur fairly frequently during the school day. It is expected that schools will do all that is possible to prevent such accidents through safety instruction, through elimination of dangerous or imperfect equipment, through alert supervision and other safety procedures. It is realized, however, that some accidents will occur despite all precautions.

Again, pupils may become suddenly sick while at school. This sickness may be the onset of a communicable disease, or it may be an attack of appendicitis, beginning pneumonia, acute indigestion, a toothache, an earache or any other sickness.

What should the schools do in the case of accident or sudden sickness? The committee believes that *every school should have a planned, written program for the care of emergencies* acknowledging school responsibility for: (1) *giving immediate care,* (2) *notifying parents,* (3) *getting pupils home,* and (4) *guiding parents,* where necessary, to sources of further treatment.

It is believed the school should assume responsibility for the immediate care of those accidents which occur during school-sponsored and school-supervised activities wherever these activities take place. The school cannot and should not assume responsibility for the care of accidents occurring at home or during non-school sponsored programs.

Immediate care will frequently have to be administered by a teacher, because no nurse or physician may be present when an accident occurs or when a pupil becomes sick. For this reason, schools should see that there is always some person at the school who is trained

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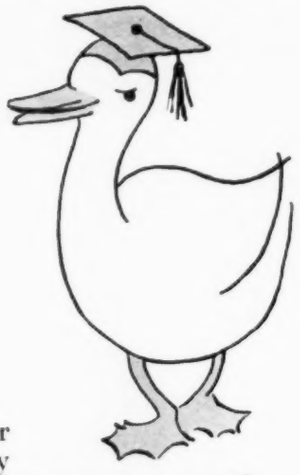

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and informed concerning what should and what should not be done in these circumstances. When a nurse is at a school, she will naturally be expected to see that the school's responsibilities are met. In case of serious accident the school may call the school physician (or any other physician easily and quickly obtainable); but the services of the physician so summoned should be limited to necessary immediate emergency treatment. It will be found helpful for each school to have posted in the principal's office, or other convenient location, a list of names, addresses and telephone numbers of physicians in the neighborhood who may be called for emergencies. It is expected, of course, that each school will have first aid supplies available and accessible to all who may give emergency care.

What constitutes immediate emergency care? This, of course, varies with the type of sickness or accident. It may involve the control of hemorrhage in case of cuts, or the covering of a burn with a clean sterile dressing. On the other hand, it may require only the removal of a pupil from the classroom and permission for him to go home. Detailed instructions concerning the emergency care of various conditions, such as headache, cuts, bruises, dogbites, suspected fractures, painful menstruation or pain in the abdomen, should be prepared by school physicians and copies distributed to each teacher. In general, it may be stated that ordinary first aid measures should be carried out in case of accidents, but that the emergency treatment of sickness usually does not require that school personnel administer medication. The prescribing of aspirin for headache or pain, or the giving of sodium bicarbonate, epsom salt or essence of peppermint is not sound school policy and faulty health education. Most cases of early sickness will be best helped if the pupil is sent home and medication delayed until the physician makes a diagnosis and determines whether drugs are necessary. By following such a policy, schools will avoid the embarrassment caused them when a pupil is afflicted with a ruptured appendix and the parents postponed having a physician until they saw what effect the medicine given at school would have, and the equally embarrassing situation of giving aspirin for what turns out to be men-

ingitis or brain tumor. In addition to avoiding embarrassment, the school will be doing good health education, because it will be teaching that drugs are not taken for every condition which develops but usually only on the recommendation of one who understands their value, their limitations and their dangers.

As soon as possible after an accident or the onset of sickness, the school should notify parents, turn over to them the decision as to where further treatment, if necessary, is to be obtained and arrange for the method and means of getting the pupil home. Sometimes this contact can be made by phone; in other cases the contact will come when some one from the school accompanies the pupil home. No set procedure can be outlined which will cover all cases because of the differences in the economic status of parents, in the nature of the accident or sickness, the personnel available and the community resources for medical care. It does seem fitting, however, to warn of the danger of sending a sick or injured pupil home by himself or accompanied only by another pupil. The hazards of traffic, the possibility of no one being at home, of the sickness or injury becoming acutely worse on the way home and the possibility of the sickness being communicable are reasons for suggesting that an adult accompany pupils going home because of serious sickness or injury.

When a parent cannot be reached, it may be advantageous to contact the private physician or private dentist of the injured pupil, explain the conditions and ask whether he chooses to provide whatever medical care is needed until such time as the parents can be reached. As an aid in doing this, it is suggested that the name and address of each pupil's private physician and private dentist be recorded on his permanent health record card. These data may, of course, require frequent revision. This procedure will have educative value to parents and pupils as well as be an aid in case of accidents and sudden sickness.

Occasionally there will be need for securing immediate hospital care for a pupil whose parents cannot be located, as for example, when a pupil has a suspected skull fracture or suspected ruptured appendix. Naturally, every possible effort should be made to reach the parents, but delay in securing medical attention may have serious consequences. There is need to plan for such eventualities. Where there is a city hospital, the use of this institution may be the solution. Likewise the use of city ambulances may be arranged.

In most instances school responsibility for pupils will end when they have been placed in the hands of parents. There are, however, cases where parents will be unable to afford a private physician or not know where needed medical care can be obtained. The teacher or school health staff should guide these parents to treatment facilities available in the community for care of the needy.

Because of the prominence sometimes given the question of pupils injured in athletics, the committee expresses the opinion that the policies for the care of accidents as outlined in the preceding paragraphs are just as applicable to injuries in interscholastic and intramural athletics as to injuries occurring during other parts of the school program. Physical education teachers should be well trained in first aid procedures and fully informed regarding school policies for the care of those injured.

In every accident and case of sudden sickness there are opportunities for health education. At such times the interest of pupils is aroused, and they are anxious to know what should and should not be done. Older pupils should care for minor injuries under the supervision of teacher or nurse, and the educational value of such experience may equal the protective value of the first aid. Previously, in discussing cases of sickness at school, it was mentioned that pupils should be taught that medication is usually taken only on the recommendation of some person qualified to diagnose abnormal physical conditions and

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authorized to prescribe treatment. In both accident and sickness there are opportunities to help pupils develop judgment as to when medical aid should be sought as well as the limitations of care given by those without medical training. By utilizing opportunities for incidental health education present in unusual situations surrounding emergencies, teachers can impart knowledge and develop attitudes which will have farreaching effects.

NOTE.—The next three points of this program will be considered in the October issue.

WHY HAY FEVER? (Continued from page 798)

panied by intolerable itching of the contacted areas.

4. The injectant group: When a patient is injected with diphtheria toxoid, tetanus [lockjaw] antitoxin or other similar preparations, he will puff up. His lips and eyes swell beyond recognition. Both the physician and patient become alarmed. Fortunately, an epinephrine injection administered by a physician may control and not infrequently check the swelling. It is this group which leads physicians to test people with a tiny amount of diluted serum before administering it.

For the pollen to be an irritant, it must fulfil five postulates: First, there must be present in the pollen an excitant of hay fever. Second, the pollen must be wind borne. Third, the pollen must be present in sufficiently large quantities. Fourth, the size of the pollen grain must be such that it will be sufficiently buoyant to be carried long distances. Fifth, there must be an abundant growth of the pollen-producing plant over a considerable area.

The pollen can come from flowers, trees, grasses and weeds. Among the latter group the most frequent offenders are giant ragweed, small ragweed, Western and Southern ragweed and careless weed. Among the grasses we have June grass, little barley, redtop, sweet vernal grass and many others. Among the flowers we have roses and carnations. The familiar pollen of the maple, oak, elm and birch is supplied by the tree family.

Henry Ward Beecher was so distressed by his affliction of hay fever that he wrote to Dr. Oliver Wendell Holmes for a suggestion regarding the treatment of this annoying malady. Holmes wrote back, "Gravel is an effective remedy and should be taken six feet deep."

Before the physician decides on a course of treatment, he takes a careful history of the patient and places him in any or all of the four groups: inhalant, ingestant, contactant or injectant. He also consults the geographic area and its pollinating chart. To establish further accuracy, the patient is tested with the pollen which may abound in that particular geographic area.

The skin testing is accomplished by placing on the skin or immediately below the surface of the skin (above the papillary layer) a drop of the solution of the whole pollen or an extract made from the specific pollen. The scratch test is thus described:

The equipment consists simply of a sterile needle, solvent, a dropper, tooth picks and the extract of the pollen. The flexor surface of the arm is selected, because it is more sensitive. This is washed with 95 per cent alcohol; then a very fine basket-weave scratch about one sixth of an inch in area is made with the point of the needle. A drop of solvent is applied with a dropper to the scraped area of the patient's skin, and with the flat end of a tooth pick the extract is mixed with the solvent. Then 10 to 15 minutes is allowed for reaction. If it is positive, a pinkish hive or wheal covers the area; the bigger the reaction, the greater the area. It is graded in one to four plus signs. One plus sign denotes a weak positive, and four plus signs mean a maximum reaction. Sometimes the reaction may be delayed for many hours.

A patient who suffers severely may start with preseasonal treatment, which commences two or three months prior to the attack; or in a mild case, coseasonal treatment is indicated during the hay fever attack, or there is the perennial treatment, which is carried on throughout the year at weekly or bimonthly intervals.

The modern precise concept of hay fever (pollinosis) makes it possible to desensitize a patient against pollen or foodstuffs and give him relief from the annoying disorder. The lugubrious advice of Dr. Oliver Wendell Holmes is a thing of the remote past and should be buried with the past.

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DENTAL NOSTRUMS AND THE PUBLIC HEALTH, by Samuel M. Gorden and Eleanore B. Dufour. A reprint from Hygeia of three articles on the promotion of dental nostrums and dentifrices. 32 pages. **10 cents.**

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BOOKS ON HEALTH (Continued from page 831)

gologic, psychiatric, pedagogic and sociologic authorities.

For the most part, the material presented is authentic. Millions of persons in the United States who are hard of hearing will find much of interest and assistance in its pages. They will see many of their own situations and will be encouraged by the manner in which the author met many problems.

AUSTIN A. HAYDEN, M.D.

Picture of Health

By James Clarke, New York: The Macmillan Company, 1940. $0.60. Pp. 126.

This book succeeds admirably in fulfilling its avowed purpose. It tells clearly and interestingly about the various systems of the body that work together to keep us alive and how they maintain themselves in the state that means good health for the individual. The amount of information the author gives on the various topics is just enough to explain each system or organ and the technical details are not included. In order to meet criticisms that might come from persons who insist on obtaining all the information possible on the various topics the author gives, in his last chapter appropriately entitled "You Don't Know the Half of It," a short but quite adequate bibliography that the reader will do well to read if he is interested in pursuing the subject further.

PAUL A. TESCHNER, M.D.

Men Against Madness

By Lowell S. Selling, M.D. Cloth. Price, $3.50. Pp. 342, New York: Greenberg, 1940.

This is an interesting description of the growth of knowledge of mental disease, presented primarily through biographic accounts of a number of chief contributors to the development of psychiatry. Beginning with the evidence that primitive man attempted to deal with some mental disturbances by trephining, Dr. Selling in a fairly systematic manner traces the changing attitudes toward and knowledge of the problems of the insane. He attempts to indicate how the growth of knowledge of mental functioning, and of mental therapy "developed concurrently with the growth of medicine as a whole." He deals with the struggle to establish the most rudimentary knowledge of neuroanatomy, the advances and missteps in the "organic" approach to mental disease. He describes the evolving attitudes toward mental illness, emphasizing the revolutionary contributions of Pinel to methods of treatment. Dorothea Dix's reforming zeal in winning for the mentally ill a minimum of consideration furnishes an intriguing chapter. The approaches to psychotherapy and to psychologic research in mental illness is traced through Mesmer, Bernheim and Charcot. A descriptive classification of mental disorders, through Griesinger and Kraepelin to modern dynamic psychology, with Freud's insights into the nature of mental disturbances suggested as a primary basis for further research endeavor, concludes the work.

The book is written for popular consumption and contains an enormous amount of material condensed for brief presentation. In some respects the author is distinctly careless in his discussion. This is most evident in the final chapter. Here the term "suppression" is rather consistently used in the place of "repression." A more correct statement of the few fundamental concepts on dynamic psychology could have been made in a much shorter account.

The book is distinctly entertaining and worth reading, but is perhaps more authentic as biography than as a history of psychiatry and of psychiatric concepts. Dr. Selling's somewhat too facile style of writing here does injustice to a seriously conceived book.

GEORGE J. MOHR, M.D.

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Medical News OF THE MONTH

Inflammation from Hosiery

Four cases of dermatitis (inflammation of the skin) of the legs and thighs following the wearing of Nylon stockings made by one manufacturer are reported by S. J. Fanburg, Newark, N. J., in *The Journal* of the American Medical Association. In his preliminary report of the cases he says they "suggest that the dye or finish used in preparing the hose in question may have been a primary skin irritant, while the Nylon itself is probably innocuous."

Patch tests made on the four women with undyed and unfinished Nylon were negative, he reports, whereas in all four cases strongly positive reactions to the finished product and the residue of an ether extract were obtained. He says that the E. I. DuPont de Nemours Company states that Nylon yarn is manufactured by it and sold to various mills, where the material is made into hosiery and then dyed and finished.

Los Angeles Children

The greater than average height of Los Angeles children appears to be in some way attributable to the favorable environment there, Orren Lloyd-Jones, Los Angeles, concludes in the *American Journal of Diseases of Children.*

While many Californians have attributed superiority in height and weight to children of that state, this might seem to be "merely the expression of an overenthusiastic local loyalty said to be characteristic of Californians," the author points out. He undertook statistical studies to determine whether there was any basis for such an opinion. The average heights of children in Los Angeles in 1938 at each year of age from 6 to 18 were found to be greater than those of any other group for which data have been collected. However, the most recently published data dealing extensively with the height of children in various sections of the United States were based on 1923 measurements. Improvements in diet, hygiene and the care of children since that time might well have an influence on height in general and thus nullify the significance of comparing the two sets of average heights, the author observes.

A more significant comparison was that made between the Los Angeles children born in California and those born elsewhere. The author's study showed that native Californians were taller than children born elsewhere but residing in Los Angeles. He also found that as the time of residence in California increases there is a perceptible trend to greater average height at each age.

New Use for New Material

The difficulties of maintaining continuous wet dressings on the hands or feet in certain skin diseases are overcome by the use of mitts and socks made of a material called pliofilm, Garold V. Stryker and Joseph Grindon Jr., St. Louis, report in *The Journal* of the American Medical Association.

"This material," they say, "is moisture proof, oil proof, odorless, nonirritating, pliable, thin, durable, tear resistant, sewable, heat sealing, not uncomfortably warm (as are rubber mitts and socks), noninflammable, resistant to weak acid and alkali and inexpensive.

"Although rubber gloves and socks are effective for the purpose, patients object because of constriction and excess heat."

Sugar Decreases Golfers' Fatigue

Blood sugar studies made on thirty male golfers ranging from 30 to 45 years of age and possessing handicaps of from 10 to 27 revealed that "more ketogenic types of lunch (high in fat) and consumption of sugar or candy at the seventh or ninth hole resulted in definite decreases in untoward symptoms and, on the whole, better scores," Paul Michael, Oakland, Calif., reports in *The Journal* of the American Medical Association.

Sugar in the blood provides immediately available food for muscle energy. The author says that the group studied for the effect of exercise on blood sugar was selected because it consisted of apparently healthy males with no evidence of diabetes and represented a cross section of the two million golfers playing on three thousand courses in the United States, their handicaps falling within the range assumed to apply to the greatest number of American golfers.

Difficulty in Swallowing

Difficulty in swallowing may be one of the unfavorable results of insufficient amounts of the vitamin B complex in the diet, I. R. Jankelson, Boston, asserts in the *American Journal of Digestive Diseases.* He reports six cases of this symptom relieved by adequate vitamin B complex administration. The condition was attributed to lack of the vitamin complex on the basis of careful analysis of the dietary habits of the patient and the absence of other causes. Two cases of difficulty in swallowing due to other causes, used as controls for this study, did not respond favorably to vitamin B complex administration.

Prevention of Measles

Human globulin, a preparation which contains an immune factor or factors against measles and which is made from placental extract, can be used with great benefit in the prophylaxis of measles on a city-wide basis, Herman Bundesen, William I. Fishbein, Irving R. Abrams and Richard Miller, Chicago, declare in *The Journal* of the American Medical Association on the basis of the results of their extensive use of this preventive for Chicago children. The placenta is a round, flat organ within the uterus which establishes communication between the mother and child by means of the umbilical cord.

Although the use of serum from convalescent measles patients is more potent in preventing measles and produces fewer unfavorable reactions, globulin is more readily available and would have to be used in a large outbreak if the serum could not be procured, the authors point out.